DOCUMENT RESUME

ED 106 542 CE 003 711

AUTHOR	Vetter, Louise; And Others
TITLE	Career Guidance Materials: Implications for Women's Career Development. Research and Development Series No. 97.
INSTITUTION	Ohio State Univ., Columbus. Center for Vocational and Technical Education.
PUB DATE	Jun 74
NOTE	90p.
AVAILABLE FROM	The Center for Vocational Education, The Ohio State University, 1960 Kenny Road, Columbus, Ohio 43210 ($6.00)
EDRS PRICE	MF-$0.76 HC-$4.43 PLUS POSTAGE
DESCRIPTORS	Career Choice; Career Education; Career Planning; *Content Analysis; Employment Qualifications; Equal Opportunities (Jobs); Evaluation; Evaluation Methods; *Females; *Instructional Materials; Males; *Occupational Guidance; Occupational Information; Secondary Education; Sex Discrimination; Sex Role; *Sex Stereotypes; Vocational Development

ABSTRACT

Sex-role stereotyping was found in almost all post-1970 high school level career guidance materials studied in a content analysis of more than 9,500 pages and 1,850 illustrations. Random samples of the materials, taken from commercial and noncommercial lists, indicated that: about 75 percent of illustrations of people of one sex were men; 75 percent of proper names used were male; 33 percent of men and 4 percent of women were pictured outdoors; 36 percent of the materials differentiated between male and female career patterns and 14 percent on pay scale; and 30 percent mentioned "working mothers." The report offers representative stereotyped and nonstereotyped quotations from the materials. Data is analyzed, tabulated, and discussed in relationship to: methods and procedures, an analysis and comparison of the samples, and the testing of the instruments for reliability and validity. A revised and shortened form of the testing instrument is examined. Recommendations include: (1) honest discussions of occupational skills and life styles, (2) the use of the third person plural form of pronoun wherever possible instead of the usually unjustified use of "he" or "she," and (3) awareness of sex-role stereotyping throughout the materials rather than in special statements on the subject. The assessment instrument is appended. (MDW)

ED106542

Research and Development
Series No. 97

CAREER GUIDANCE MATERIALS:

IMPLICATIONS FOR

WOMEN'S CAREER DEVELOPMENT

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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June 1974

CE 003 711

THE CENTER MISSION STATEMENT

The Center for Vocational Education intends to increase the ability of diverse agencies, institutions, and organizations to solve educational problems relating to individual career planning and preparation. The Center fulfills its mission by:

- Generating knowledge through research
- Developing educational programs and products
- Evaluating individual program needs and outcomes
- Installing educational programs and products
- Operating information systems and services
- Conducting leadership development and training programs

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FOREWORD

The Center is currently engaged in a number of activities designed to aid in achieving orderly and meaningful career development and adjustment. This project is part of a larger programmatic effort which will provide the needed procedures and tools for designing and implementing a high school career guidance program.

This publication reports the findings of an assessment of career guidance materials for the representation of careers for women. Exploring career alternatives, making career choices and developing essential competencies is a difficult, complex, lifelong process. The process can be made more difficult for certain groups of people when information is misleading, unavailable, or slanted toward other groups. The findings should be of interest to researchers, educators, and guidance personnel in selecting and developing educational and guidance experiences for women.

We would like to acknowledge the assistance of Peggy Corn, Anne F. Fish, and Patricia S. Teagardin who participated as raters in the study; and Dr. Nancy K. Schlossberg and Dr. Harry Bowman for their review of the manuscript. Special recognition is due Louise Vetter, David W. Stockburger, and Christine Brose who conducted the research.

Robert E. Taylor
Director
The Center for Vocational
Education

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SUMMARY

In order to make a decision about what type of career to follow, young people need information about the possible alternatives available and the implications of their choice. One of the basic sources for this information is career guidance materials. The questions asked by this research were: What types of sex-role models are being presented in these materials? In what ways are women treated differently from men in these materials? Does this treatment reflect a stereotyped world, present sex-role views more stereotyped than actually exist, or present a picture of the changing realities of the possibilities for women in the world of work?

The population for this study was all career guidance materials published since 1970 that were intended for high school student use. The student materials listed in the Vocational Guidance Quarterly "Current Career Literature" bibliographies and in the two bibliographies prepared by the VT-ERIC Clearinghouse (one of non-commercial materials and one of commercial materials located during national searches conducted by Peat, Marwick, and Mitchell) were selected as two representative lists of materials available. Random samples, stratified on the basis of type of occupation depicted, were selected from the materials in each of these lists. More than 9,500 pages of text and 1,850 illustrations were analyzed in over 200 materials.

To a greater or lesser extent, almost all of the materials were found to be stereotyped. Approximately 75 percent of the illustrations of people of one sex were of men. This same percentage was found in the use of male proper names compared with female proper names. In both samples, the number of role models of men was significantly greater than the number of role models of women. In more detailed analyses, it was found that 33 percent of the men and 4 percent of the women were pictured outdoors. Men and women were illustrated and mentioned in significantly different proportions in the ten general census categories of occupations. Women were over-presented to a greater extent than men in the professional occupations category, although men were also overrepresented in the professional category.

The pronoun "he" was used more frequently than either "you" or "she", with "she" being used the least frequently. Thirty-six percent of the materials mentioned something about the fact that women have different career patterns than men and 14 percent specified that women were paid differently than men. Thirty percent of the materials mentioned something about working mothers in the text.

Examples are given of some representative stereotyped and non-stereotyped quotations. It was found that many of the materials contained both types of quotations and were rarely consistent in their approach to stereotyping.

An attempt was made to develop a short form of the evaluation instrument to rate materials with respect to sex-role stereotyping, using some of the variables mentioned above. In comparing the ratings given thirty of the longer materials by raters knowledgeable of sex-role stereotyping but not familiar with the variables used in the instrument, a correlation of .68 was found. This agreement was felt to be high enough to warrant further use of the shortened form of the instrument and it is included in this report along with a scoring procedure.

The study concludes by recommending that an honest discussion of the necessary skills, attributes, and life styles associated with each potential career should be provided without regard to sex. The third person singular form of the pronouns "he" and "she" was felt to be unjustified in most cases in these materials and the recommendation was made to use the plural form whenever possible. The total material should reflect an awareness of sex-role stereotyping rather than contain a sentence, paragraph, or chapter on the subject.

In summary, most of the materials were found to be stereotyped to some extent. Men were shown and mentioned in greater abundance than women. Men were shown outdoors and in more physical occupations than women. Specific recommendations are given to lessen the amount of sex-role stereotyping in these materials.

I. INTRODUCTION

The Problem

The growing importance of career education has prompted an increased interest in the content of career materials available to students. Concurrently, literature on the content of textbooks in terms of sex-role stereotyping suggested that a similar study should be made of materials that are being used to provide career information for high school students. Since only one study focusing on sex-role stereotyping in illustrations in career guidance materials was located (Birk, Cooper, & Tanney, 1973), a study of both illustrations and text was needed to provide information on the content of career materials.

There is an increasing volume of literature (see, for example, Kievit, 1972; Vetter, 1973; Sunie-wick, 1971; and Gornick and Moran, 1971) that points to the differential treatment of boys and girls, men and women in education and at work. Broverman, Vogel, Broverman, Clarkson, and Rosenkrantz (1972, pp. 75-76) have summarized their research on sex role stereotypes. They state:

> Women are perceived as relatively less competent, less independent, less objective, and less logical than men; men are perceived as lacking interpersonal sensitivity, warmth, and expressiveness in comparison to women. Moreover, stereotypically masculine traits are more often perceived to be desirable than are stereotypically feminine characteristics.

They point out that women are put in a double bind because different standards exist for women than for adults. However, the finding that antecedent conditions (for example, employed mothers) were associated with individual differences in stereotypic sex-role perceptions was interpreted as offering encouragement that change is possible.

The career guidance materials assessed in this study will be used by high school students at a time in their lives when decisions concerning career plans are being made. If the information high school students receive is accurate and if the number of options they have are clearly presented, they will be better able to make career decisions based on individual interests, abilities and concerns, rather than on stereotypic role expectations. It may be possible to change the situation for women which in the past has resulted in more negative self-concepts (Broverman, et al., 1972) and more problems in functioning as adult persons (Chesler, 1972).

Influence and Use of Career Materials

Borow (1966) has pointed out that "occupational information is one of the most fundamental aspects of vocational guidance, yet, in practice, remains one of the most notoriously ineffective ones" (p. 11). According to Samler (1964), the realities of work, the work force and the labor structure are not really considered in occupational materials. The major emphasis is on the economics of working, while psychosocial factors are rarely considered.

Research has indicated that early presentation of occupational information may facilitate such developmental factors as the understanding of occupational concepts; identification of vocational interests; and realism of self-concept, appropriateness of vocational choice, and readiness to function as an effective employee (Sinick, Gorman, and Hoppock, 1966). However, one of the questions addressed by this study is whether occupational information in career guidance materials includes the extent and variety of labor force participation of women. Kaufman, Schaefer, Lewis, Stevens, and House (1967) have pointed out that many of the expressed attitudes and plans of high school senior women are based on a very restricted view of the possibilities open to them as adult women. Other studies (Lee, Ray, Vetter, Murphy, and Sethney, 1971 and Vetter and Sethney, 1972) have documented the lack of information that high school women have about women in the labor force and how this affects the attitudes they hold and the plans they make.

Perrone (1968) surveyed personnel in 4,436 public high schools across the United States in an evaluation of occupational literature. According to the responses of librarians, 56 percent of the male students and 70 percent of the female students had sought occupational information. Counselors reported that the mode most often used by students in obtaining information was reading and suggested that pamphlets are the best format for disseminating information.

Prediger, Roth, and Noeth (1973) surveyed the reactions of more than 9,000 eleventh graders to typical career guidance activities. They found that 39 percent of the males and 50 percent of the females indicated that a file of job descriptions, pamphlets, or books on jobs were of some or a lot of help in their career planning.

These results point to the necessity of having career guidance materials that adequately reflect the realities of the work world, so that young women who are seeking information from school personnel will not be handicapped in their career planning because of inaccurate presentation. To accurately reflect the reality of today's world may not be enough, however. Ideally, the materials should present emerging patterns because students are preparing for tomorrow's world, not today's. The career options available for both men and women should be open-ended and not limiting.

Studies of Sex-Role Representation in Textbooks

A number of studies have dealt with the issue of representation of sex roles in elementary-level school materials. At the preschool level, Weitzman, Eifler, Hokada, and Ross (1972) analyzed prize-winning picture books in terms of the sex-role stereotypes presented in those books. They found that women were greatly under-represented in the titles, central roles, and illustrations. The women shown were mostly mothers doing motherly things, while the men represented engaged in a variety of occupations. The authors also pointed out that, in general, the little boys pictured were active, participating in many different activities, while little girls, in the vast majority of the cases, were passive, usually in the role of an observer. The sex role stereotypes in these books were considered more extreme than that which actually exists in American society.

Stefflre (1969) analyzed the representation of women workers in elementary textbooks. He found that, while 87 percent of the men represented were employed, only 19 percent of the women were. Although 37 percent of the workers in the labor force were women, only 7 percent of the workers in the textbooks were women. Of the women workers found in the textbooks, there was an over-representation in professional occupations and an under-representation in clerical, sales, skilled, and unskilled jobs.

Elementary school reading texts currently in use in New Jersey were analyzed by Women on Words and Images (1972). They too, found that men and boys were presented in the readers to a

greater extent than were girls and women. Boys were shown in active mastery of the environment at a ratio of four to one over girls, while girls were mainly shown as dependent, fearful, or incompetent. The authors point out that: "A young girl is constantly being 'sold' on nursing over doctoring, stenography over business administration, teaching over school administration, and on motherhood over all other alternatives" (p. 26). Biographical stories were overwhelmingly male - 119 stories about 88 men to 27 stories about 17 women. Of the 173 occupations represented, 147 were indicated for men, 26 for women. Seventeen percent of the workers represented were women, with 4 percent of the women workers being working mothers.

O'Donnell (1973) analyzed six basic social studies texts for grades 1 and 2. He found that 73 percent of the dominant/central figures in the illustrations were males, 27 percent females. Of adults depicted in occupations, 293 (83%) were males, 60 (17%) were females.

An earlier analysis of third grade readers (Child, Porter, and Levine, 1946) was mainly concerned with reward or punishment of differing activities by the characters represented, but the study also dealt with male-female differences. The results of this study were similar to those of the studies mentioned earlier. Males were more active, more achievement-oriented, less passive or lazy, less nurturant, and much more likely to express unprovoked aggression. Males in these stories were depicted two and one-half times as often as females. The authors concluded that the most striking result of the study was the extent to which a differentiation is made between the roles of male and female in the content of these readers.

Some contradictory evidence came from Zimet (1970) who analyzed trends in sex-role expectancies in primers (first grade readers) from colonial days to present. She stated:

> From a character count, it was noted that textbook authors began to increase the number of female characters in the stories as formal education was opened to girls (between 1776 and 1835). This trend continued so that by 1898 and up through 1966, girl characters actually outnumbered boy characters in the texts. (p. 83)

Zimet also argued that the current (1966) books had little if any sex-role differentiation and that clearly defined sex-roles were necessary for normal development of boys and girls.

In a related study, Blom, Waite, Zimet, and Edge (1972) presented data on the appropriateness of the main activity of the story, classified by sex and publication date. They classified 51 percent of the main activities as appropriate for girls and 40 percent as appropriate for boys in readers between 1956-1961. For readers published in 1962-1963, 38 percent of the main activities were classified as appropriate for girls, with 55 percent appropriate for boys. The approach of Blom, et al. in judging the activity rather than the characters performing the activity may account for the differences in results, yet a contradiction still appears to exist.

In a later chapter Zimet and Blom (1972:137-138) qualify their concerns about identifiable sex roles with the following:

> The importance of presenting clearly definable masculine and feminine roles has been emphasized in several chapters throughout this book. Herein lies a danger - that of replacing the diffuse sex role model with a stereotyped, conventional male and female model . . . Thus, the recommendation here is that the emphasis be placed "on being human" . . . women characters would be engineers, doctors, reporters, scientists, taxi drivers, letter carriers, secretaries, teachers, nurses and store clerks, as well as mothers, maiden aunts, sisters, and daughters . . .

A review of responses of publishers to the Colorado Commission on the Status of Women (1972) points out that publishers became increasingly aware of the image of women in their texts and reading materials from 1967 to 1971. While the commission felt that the awareness of the problem had increased, it was awaiting further evidence on whether many of the subtle negative images of women would be changed.

Sex-Role Representation in Career Guidance Materials

Birk, Cooper, and Tanney (1973) analyzed 2,004 illustrations that appeared in the Occupational Outlook Handbook, the Encyclopedia of Careers (two volumes), the SRA Occupational Briefs, and an array of typical career information pamphlets and brochures. They found that 67 percent of the illustrations were of males, 26 percent of females, and 7 percent were of groups (males and females). Twenty-four percent of the pictures showing men in careers were outdoors, while only 4 percent of the women were shown outdoors. Women were shown in "helping" roles in 35 percent of the pictures of women; men were shown in "helping" roles in 12 percent of the pictures of men. The authors indicate that "the American world of work seems to be almost exclusively populated by white men" (p. 4).

Output

The objective of this work unit was a research report that provides the following output based on career guidance materials intended for use in grade 9-12.

1. An experimental instrument that will measure various aspects of sex-role stereotyping evident in the career literature

2. Measures of the validity and reliability of the types of data collected using the instrument

3. Tests of hypotheses that will be outlined later in this report.

These data will be used to:

1. Provide information on gaps in the present delivery system for career guidance that will be useful to educational researchers and developers for developing delivery subsystems for career planning programs for girls and women.

2. Provide a possible methodology for use by educators, publishers, and writers in evaluating present career planning materials for girls and women.

II. METHODS AND PROCEDURES

The population, sample, and procedures for sampling are discussed in this chapter. A discussion of the instrumentation, including the pilot development of the career materials assessment instrument as well as methodology problems, are presented. The research design is then outlined.

Population, Sample, Procedures for Sampling

The general population for this study included all career guidance materials published in or after 1970 that were intended for use by high school students. It did not include materials intended only for use by counselors and teachers. The reason for limiting the population to materials intended for high school use was to maintain compatibility with the intended output of the research program, a Career Planning Support System for high school use. Since career materials must be current to be helpful to the intended users (students), only materials published in 1970 or after were included in the population.

The specific populations, from which two samples were selected, were:

1. The student materials (N=1091) listed in the Vocational Guidance Quarterly (VGQ) "Current Career Literature" bibliographies (through the June 1973 issue) that had publication dates of 1970 or later. The materials listed in the VGQ had been rated using the National Vocational Guidance Association guidelines and were recommended for school use.

2. The high school-level career education materials (N=168) listed in the two bibliographies prepared by the VT-ERIC Clearinghouse. One of the bibliographies was of non commercial materials and the other was of commercial materials located during national searches conducted by Peat, Marwick, and Mitchell (PMM).

Both populations were stratified, using the intermediate occupation classifications that the U.S. Bureau of the Census (1972) used to report occupational information for the 1970 census. This was done for two reasons: (1) to avoid, if possible, the over-representation of professional occupations that previous researchers (Perrone, 1968; Luker, 1973) had found, and (2) to give a basis for comparison with actual occupational participation in the labor force. Additional categories were added to classify materials that covered more than one occupational area (see Table 1).

Materials were randomly selected within strata from the populations (see Tables 1 and 2). Because of the smaller numbers of materials in the nonprofessional categories in the PMM bibliographies population, the categories where more men were employed (managers and administrators, and craftsmen and kindred workers) were combined and the categories where more women were employed (clerical and kindred workers and service workers) were combined. Table 2 reflects these combined categories for sampling purposes.

Table 1. Career Materials Sample from the Vocational Guidance Quarterly Bibliographies

Census Categories	No. of Materials in Population N_i	No. of Materials in Sample n_i	Percent Employment in Labor Force - 1970	
			Men	Women
Professional, technical, and kindred workers	445	40	14.4	15.7
Managers and administrators	50	8	11.2	3.6
Sales workers	33	8	6.9	7.4
Clerical and kindred worker	57	8	7.6	34.9
Craftsmen and kindred workers	111	20	21.2	1.8
Operative, except transport	24	8	13.6	13.9
Transport equipment operatives	12	8	5.9	.5
Laborers, except farm	8	8	6.6	1.0
Farm workers	11	8	4.5	.8
Service workers	43	8	8.1	20.5
Total	794	124	100.0	100.0
Other Categories				
Armed services	12	8		
Student aid	11	-		
Information on schools	38	-		
General information on careers and getting a job	48	8		
Industries and fields	172	16		
Miscellaneous	16	8		
Total	297	40		
Total Population	1091	164		

Table 2. Career Materials Sample from the PMM Bibliographies

Census Categories	No. of Materials in Population N_i	No. of Materials in Sample n_i
Professional, technical, and kindred workers	45	15
Managers and administrators and craftsmen and kindred workers	15	5
Clerical and kindred workers and service workers	16	6
Sales workers	1	--
Operative, except transport	1	--
Transport equipment operatives	--	--
Laborers, except farm	--	--
Farm workers	--	--
Total	78	26
Other Categories		
General information on careers and getting a job	21	7
Industries and fields	68	23
Total	89	30
Total population	167	56

Methodology Problems in Sex-Role Stereotyping

No discussion of the problems inherent in this research area would be complete without a discussion of the instrumentation and measurement techniques used to describe sex-role stereotyping. Two general questions that continually must be asked are: (1) If the same measures were used by a different rater or the same rater at a different time, would the results be similar? and (2) Does the technique actually measure what it purports to measure? With these questions in mind, various previously used methodologies are reviewed below.

Two types of data, specific examples and tabulations of children and adults by sex into various categories, were used in differing degrees by all of the studies thus far. The WOW study (1972) tabulated activities by theme and sex of character for such themes as exploration, passivity, goal constriction, heroism, etc. The data were presented as ratios, e.g., the number of men tabulated to the number of women tabulated for each theme. Specific examples were then used to further the impact of these statistics. Occupational models presented in textbooks were also tabulated by sex by Jeffrey and Craft (1972). A study by Weitzman, et al., (1972) relied almost exclusively upon examples to demonstrate its point. The Child, Porter, and Levine (1946) study presented percentages of male and female characters engaged in a particular type of behavior or theme and outcome of that behavior. This study was the most extensive, but was not specifically concerned with sex-role stereotypes.

The first general methodological concern was with the reliability of the data. This question has not been addressed extensively by these studies. O'Donnell (1973) and Birk, Cooper, and Tanney (1973) reported inter-rater reliabilities of approximately .90. Child, Porter, and Levine (1946) used informal reliability checks. None of the other studies reported reliability measures. While classification of illustrations into male and female categories may be highly reliable data, a question may be legitimately asked about the reliability of classification of behavior into themes, such as heroism, exploration, and passivity. This question becomes more salient if the classifiers knew beforehand whether this behavior was performed by a male or female character. Problems such as this must be dealt with before the development of an instrument is complete.

The listing of occupational models by sex of character also presents problems. For instance, there are almost twenty job titles under the heading home economist. The same problem exists for the many kinds of medical specialities. Are these listed individually or separately? Of major concern is the grouping of occupational titles the same for male characters as for female characters and is this grouping unbiased in terms of predominantly male and female occupations? There is no indication that one unbiased list was used in any of these studies.

The presentation of data in terms of ratios also presents problems. If the longest books (containing the greatest number of pages or themes) are also the most sex-role stereotyped, then the overall ratios may be overestimates of the amount of sex-role stereotyping that may be found in any one book, if all books are considered to have an equal impact on the student. The opposite would be the case if the longest books were the least stereotyped. Presenting overall ratios effectively weights each book by the number of pages or themes in that book. Preferably, the data should be presented in two ways; overall proportions and average proportion per book. If the data are presented as a single number (i.e., 8.00 to represent a ratio of 8:1), then scale problems are obvious. If the value is a ratio of males to females, then 8.00 would be recorded for eight men to one woman, while a value of .125 would be recorded for one man to every eight women. This scale is not linear. Proportions would be more appropriate.

The question of the validity of the data was never asked in the studies reviewed. It may be that the ratio of men illustrated to women illustrated is a very good index of the amount of sex-role

stereotyping evident in any one book. However, it is not difficult to conceptualize a case where all men or all women are pictured, but in non-stereotypic roles. Sex-role stereotyping is multidimensional and may mean different things to different people. Some attempt should be made to validate any instrument developed by using a criterion, even if this criterion is only subjective judgements as to the degree of sex-role stereotyping evident in these books. The major difficulty with this criterion is that the criterion may not be as "good" a measure of stereotyping as the measurement instrument. This practical validity would give some information about subjective weighting schemes that the raters may have used, even though such information must be interpreted with this in mind.

Instrumentation

An instrument to assess the materials was developed. Four areas were covered by the instrument: (1) general information, such as author, publisher, year of publication, and type of material; (2) illustration variables; (3) text variables; and (4) general impressions of the material being evaluated. Since the development of this instrument was of major concern to this study, the details of the development are presented in the following section.

Pilot Study of Instrument

The pilot assessment instrument was developed by selecting appropriate variables from earlier studies. (See Table 3 for items appearing on instruments in earlier studies and for this study). Some new items (such as personal titles, e.g., Mr., Miss) were added because career materials made extensive use of a slightly different language than textbooks. Other items were revised in order to make analysis more rigorous. For example, the census categories were used rather than listing all the occupations that were illustrated or mentioned.

The assessment instrument was pilot tested on twenty career materials randomly selected from the collection in The Center for Vocational Education Research Library. Three raters (one Ph.D. in counseling psychology, one M.A. in quantitative psychology, one B.A. in anthropology; two females, one male) used the assessment instrument independently. The assessors had two training sessions with the instrument before the pilot test began. Ten of the twenty career materials were randomly selected, read completely and tabulated throughout. The remaining ten career materials were tabulated only on the first, middle, and final ten pages, totaling thirty pages or less. This procedure was used to determine the feasibility of reading only part of each material. The procedure of reading only part of the material resulted in unsatisfactory reliability measures and was discarded.

Measures of inter-rater reliability on all items were calculated, as were correlations between all items and two sex-role stereotyping indices (a rating scale and a ranking of each book in terms of amount of sex-role stereotyping evident).

Tabluations were made of the people in the illustrations and in the text. These tabulations may be summarized by saying that men dominated these statistics. There were more men authors, more illustrations of men, and more male proper names. Women predominated only in the number shown as exclusively a homemaker and parent.

Proportions were calculated as overall proportions and average proportion per book. There was some difference in these two estimates but, in general, the estimates were reasonably close. There did not appear to be any systematic bias with regard to the two different types of estimates.

Table 3. Items Appearing on Instruments Measuring Sex-Role Stereotyping

Vetter, Stockburger, and Brose	Birk, Cooper, and Tanney (1973)	Zimet (1973)	Jeffrey and Craft (1973)	WOW Study (1972)	Instrument	
X	X	X	X		Sex	Authors
	X	X			Ethnicity	
X			X	X	Publisher	General
X			X		Year of publication	
X			X		Number of pages	
X			X		Intended grade level	
X	X	X	X		Type of book (categorization)	
X	X	X	X	X	Number of men and women	Illustrations
X	X	X		X	Indoor - outdoor (environmental setting)	
X				X	Interacting	
X		X		X	Interacting with children	
X	X	X			Ethnicity	
X	X				Ethnicity x sex	
X	X			X	Occupations x sex	
	X				Occupations x ethnicity	
X	X		X	X	Activity level	
X	X			X	Emotionality	
	X	X		X	"Helping" themes	Text
		X			Social class	
		X	X	X	Theme classifications	
	X	X			Age of characters	
X		X	X	X	Number of men and women	
X					Number of titles (Mr., Mrs., Miss, Dr.)	
X					Family status	
X	X	X		X	Occupations x sex	
X					Earnings	
X					Pronoun usage	
X		X	X	X	Role models	
X					Career differences x sex	
		X			Attitudes expressed	
				X	Activity level	
X			X		Quotations	
		X			Personality variables	

Occupational Categories. Each illustration depicting a worker and each mention in the text of an occupation was categorized into one of the 103 categories of the 1970 census (Bureau of the Census, 1972). These categories were tabulated separately for men and for women. For each illustration, up to three categories could be tabulated, but each category could be tabulated only once. For the text analysis each mention of a worker with sex designated pronoun or proper name was tabulated with the restriction that each category could only be tabulated once per page. In addition to the 103 categories, the categories were clustered to form the ten intermediate occupational categories.

Reliability data indicated that the ten group distinction was much better than the 103-category distinction. Reliabiltiy correlations between raters for the ten occupational categories ranged from .82 to .99 with only two correlations below .90. (For the 103 occupational categories, correlations between raters ranged from .16 to .91.) The two correlations below .90 in the ten category system may have been the result of the difficulty in classifying politicians and military personnel. These positions were mentioned in many different career materials and no occupational classification seemed to fit. The three raters, as determined at a later time, were putting them into different categories. Thus, two additional categories were added to the ten-category system: politicians and military.

Since the information gained by the finer distinction of 103 categories was offset by the lower reliability, it was decided to use the ten-category distinction for the study instrument. Because the proportion of all workers, male and female, falling into the professional group was quite high, this group was further partitioned into some typically female stereotyped professions: teacher, librarian, social worker, and nurse.

The data on the distribution of men and women into each of the ten occupational categories confirmed earlier studies (Luker, 1973; Stefflre, 1969) that found a disproportionate number of professional people in classroom materials and an under-representation of women in clerical occupations.

Other Sex-Role Stereotyping Factors. An attempt was made to measure some of the more subtle factors that contribute to sex-role stereotyping of individuals. From the references discussed earlier, a list of sex-linked terms was constructed. These terms were grouped into five general clusters of terms. For each cluster, three or four statements that encompassed the full range of the attributes were constructed. The clusters and associated statements are in Appendix A. For each illustration, the major character(s) of each sex were judged to be closest to one of the statements. The measures of the difference in distribution of men and women into non-overlapping categories were shown to be useful for determining the amount of sex-role stereotyping. Unfortunately, these measurements produced the greatest amount of "rater strain" on the raters and were highly intercorrelated.

Reliability Data. Inter-rater reliability was calculated using the correlation between raters for all items that had at least two entries. Some pairs were zero data, since only about 75 percent of the materials had illustrations; and even fewer had pictures of women.

From the review of the sex stereotyping literature, it was apparent that there had been little concern with the reliability of previous instruments and thus there was no opportunity for comparison. In general, the reliability of these data appeared to be within reasonable limits, in most cases with a reliability between .7 and 1.0, with only a few items with correlations below the lower figure.

The illustration variables and the variables taken from the text analysis appeared to have a reasonable degree of reliability between raters. Although the correlations were not perfect, they were high enough to later allow rating by one rather than all raters. The proportion variables constructed from the illustration variables also appeared to have about the same degree of reliability as the original variables.

Of major concern was the reliability of the judged stereotyping of the materials. The two methods of measuring the overall subjective impression of the judged sex-role stereotyping were a five-point scale and a ranking of the materials in each group, from the least stereotyped material to the most stereotyped. The correlations for both the ratings and the rankings were much higher for the Read All Group (rankings .84, .62, and .77 and ratings .93, .85, and .95) than the Read Part Group (rankings .23, .36, and .37 and ratings .43, .38, and -.13). This suggested that the complete book must be read in order to reliably judge the amount of sex-role stereotyping. In any case, the reliability of these measures for the Read All Group was adequate to justify using them for further analysis.

Choice of Items to Include in the Instrument. Correlations between average judged stereotyping and measures computed on items included in the pilot instrument were computed separately for the Read All and Read Part Groups. Two types of correlations were computed for each of these groups: correlations that used not applicable data as zero and correlations that considered not applicable data as missing and computed the correlation on all complete pairs of data. Two measures of stereotyping, the rating and the ranking of the materials, were used. Measures on items were computed by summing each item over the three raters. The complete data correlations would be most useful in situations where the nonoccurance of tabulations in a particular category is independent of any other considerations, such as whether there were illustrations or whether there were no proper names mentioned in the entire book. The missing data correlation would be the more accurate if such contingencies were present.

The correlations of major interest were those that were proportions constructed from tabulations of two items. Two correlations, which appeared to be reasonably good predictors and were also relatively stable across both samples, were the proportion of men illustrated and the proportion of male names. The more male names or males pictured in relation to the number of female names or females pictured, the more stereotyped the material was perceived by the raters. These estimates were available on almost all of the materials. Most of the other proportion estimates were not as good, both in terms of predictive power and stability across samples. As the other variables were interesting from a strictly data standpoint, they appeared to be worth collecting in the test instrument.

Baseline Data. The results of the 1970 census provided information on the frequency and distribution of men and women in various occupational categories. The data derived from the career materials were compared with these sources to determine if they adequately mirrored reality.

The Construction of the Test Instrument. The test instrument was constructed using the data from the pilot test. This instrument is presented in Appendix B. Two of the sex-role stereotyping scales were used, strength and cleanliness, but the others were dropped. A tabulation of expressed emotion was added. A question as to whether one or more persons were pictured was added so that comparisons could be made between the proportion of each sex interacting. The occupational questionnaire was revised so that only the ten occupational groups plus the political and military categories were tabulated.

In the text analysis, Part III, some of the more difficult, unrewarding questions were dropped. Since the term Dr. was often used, an analysis was added of sex usage with that title. The family status questions were revised in order to make clearer distinctions. Some of the tabulations made in this section in the pilot instrument were changed and placed in Part IV, asking only for final judgements rather than for tabulations throughout.

Research Design

Hypotheses

Four hypotheses, derived from the review of the literature, and methods of analysis are detailed below.

H_1 There were fewer male adult models than female adult models presented in career guidance materials intended for use with grades 9-12.

The difference between the number of men only illustrated and the number of women only illustrated was computed for each material. A one-tailed t-test (.01 level) was performed to test whether more men than women were illustrated. A similar analysis was performed between the number of male proper names and the number of female proper names used in each material.

H_2 The distribution of occupational models presented in career guidance materials intended for use with grades 9-12 was similar for men and women.

The distribution of men and of women falling into the ten general occupational categories of the 1970 census were calculated. A chi-square analysis was performed to test whether these distributions were different.

H_3 Fewer than 5 percent of the career guidance materials intended for use with grades 9-12 included models of working mothers.

The information came from the text assessment. The proportion of materials containing references to working mothers was calculated for both samples. A normal approximation to the binomial was used to test whether this proportion is significantly less than .05.

H_4 Fewer than 5 percent of the career guidance materials intended for use with grades 9-12 showed indications of current inequalities in pay between men and women.

This information also came from a text assessment. The proportion of materials that mention some differential pay for men and women was calculated. Again using the normal approximation to the binomial, a test was performed to tell if this proportion is less than .05.

Design to Test the Validity of the Instrument

The test of validity of the instrument was a two-stage process. The first stage consisted of the development of criteria for the prediction of how stereotyped a material was rated. At this point, variables were selected for inclusion into a prediction model and beta coefficients were estimated. The second stage consisted of cross-validation. That is, using the criteria developed in the first stage, a comparison was made between predicted and observed amounts of stereotyping in a sample of the materials. The greater the degree of agreement, the better the model for prediction.

Stage One. In this stage of the validity test, a criterion to be predicted was established and various models of combinations of instrument items to predict the criterion were attempted. The criterion chosen was the ratings of the project staff who had read the materials, used the instrument, and then rated each material as to the amount of stereotyping. The items chosen for inclusion into

the prediction model were those that looked promising in the analysis of the different stereotyping ratings. By regressing the chosen items on the criterion of rating of stereotyping, a set of beta coefficients was obtained in order to make predictions of stereotyping based only on the objective items.

Stage Two. In this stage, the prediction model established in the first stage was tested by comparing its predictions of stereotyping to a criterion of judged stereotyping by raters independent of the instrument. There were three outside raters who read and then both rated and ranked thirty materials as to the amount of judged stereotyping. These judges had no knowledge of the questions that appeared on the instrument but were sensitized as to the nature of sex-role stereotyping. The three judges were teachers in a local school system who were active with an education association committee on sex roles.

The amount of agreement between these judges was calculated and set as an upper bound for the goodness-of-fit of the prediction model. The prediction model was then compared to the ratings and rankings of these raters. If substantial agreement was achieved, the model was to be used as a means of scoring the instrument.

Information From Librarians and Counselors

In order to have some data to determine the possibilities for use of this instrument, a survey form was sent to possible purchasers of career materials in the six schools cooperating in the development of a systems approach to career guidance (part of the research program). The schools were located in West Virginia, Georgia, Texas, Arizona, and Oregon. The survey form (Appendix C) asked questions concerning the existing sources, the method of purchasing new sources, and whether or not an instrument such as this one would be used by the purchasers in evaluating career material.

III. RESULTS

The results of the assessment of career guidance materials are presented in two parts, the PMM sample and the VGQ sample. Within each of these samples, the results are presented for the entire sample, the occupational categories within that sample, and the sex of the author.

Many of the results presented are expressed in terms of percentages. For instance, if the variable of interest is the percent of men pictured in the materials compared to the total number of illustrations of people of one sex, the following statistic would be used:

$$\frac{\text{number of men illustrated}}{\text{number of men illustrated + number of women illustrated}} \times 100$$

This estimate is unbiased and probably the best available if the assumption is made that each illustration appearing in the materials is equally salient to the observer and independent of other illustrations. This assumption is more reasonable than assuming that each book or material rather than each illustration has equal saliency. It also results in much simpler computations and presentations. One result of this procedure, however, is that when the overall sample is partitioned by occupational categories and by sex of author, the average of the proportions for the categories does not necessarily equal the overall proportion. It was decided to allow for this ambiguity in order to achieve an unbiased estimate of the percentages rather than to use mean percentages for each material and average these.

PMM Sample

As mentioned in the procedure, there were 56 total materials in this sample. This represented more than 6,700 total pages of text and approximately 1,400 illustrations. Male and female authors were about equally represented in the sample, with 21 of the materials written by one or more man, 17 of the materials written by one or more woman, and 16 written by corporate or unlisted authors. Almost all of the materials (96%) were published by commercial publishers. Because the sample contained materials published in 1970 and after, the mean year of publication was about 1971. This meant that the sample contained an approximately equal representation from each of the three years in the sample. The average length was approximately 121 pages with an average of about 24 illustrations of people per material.

Of the materials in the sample there was an average of about 28 illustrations of people per material within the 86 percent that contained illustrations. An average of over 17 or 61 percent of the illustrations were of men only, about six, or 21 percent were of women only, and about five or 18 percent were of both sexes together. Of the illustrations that contained members of only one sex, 75 percent were of men and 25 percent were of women. It can be concluded, therefore, that men were shown more often than women and in a proportion that is greater than the actual proportion in the work force.

One of the striking findings was that 17 percent of both men and women, 33 percent of men only, and 4 percent of women only were shown outdoors. It appeared that the women illustrated in these materials may be outside only in the presence of a man, and then not in the same degree as men are pictured outdoors. In further examination of the illustrations, it was found that when only one sex was illustrated, 57 percent of the men and 57 percent of the women were shown alone rather than in groups of two or more. When two or more people were shown, 68 percent of both sexes, 75 percent of men only, and 67 percent of women only were shown as interacting. In terms of interacting with children, it was found that 10 percent of both sexes, 4 percent of men only, and 15 percent of the women only were shown with children. Correcting for the number of times each sex is pictured, we see that when a woman or women are illustrated, they are almost four times as likely as a man to be pictured with a child. The 10 percent representing both sexes pictured with children may largely be attributed to pictures of families, hardly a nontraditional role situation. Approximately 11 percent of the men illustrated and 18 percent of the women illustrated were shown expressing some sort of emotion, reflecting a stereotype of women as being more emotional than men.

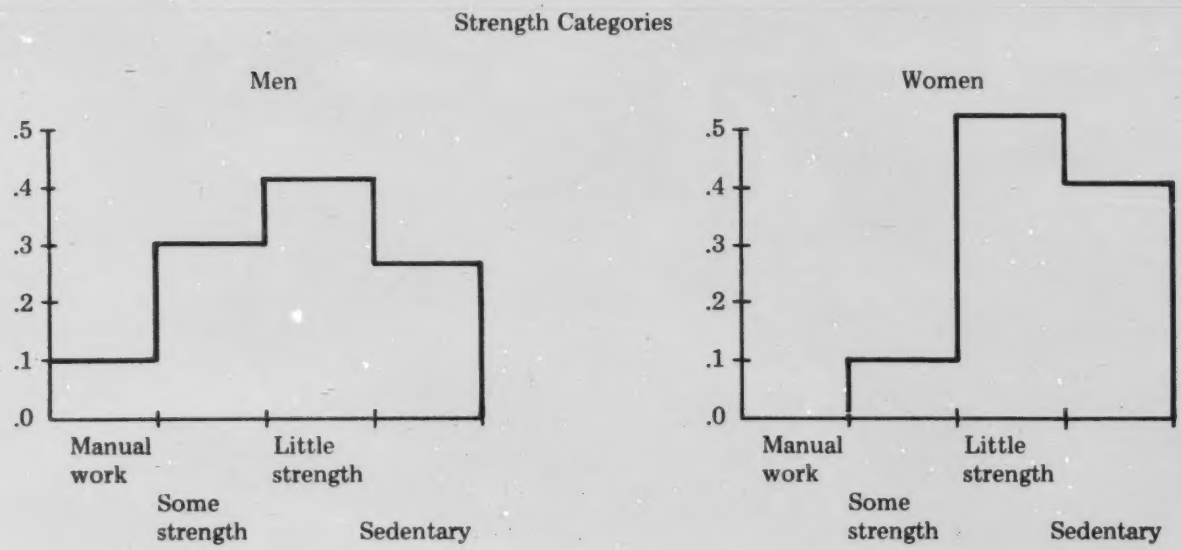
With respect to illustrations of minority groups, it was found that approximately 11 percent of the men and 15 percent of the women illustrated were black. These figures reflect the national average of about 12 percent, although no more detailed analysis was performed on the type of activity illustrated. Four percent of the men and 3 percent of the women belonged to other minority groups such as Oriental American, Native American, or other.

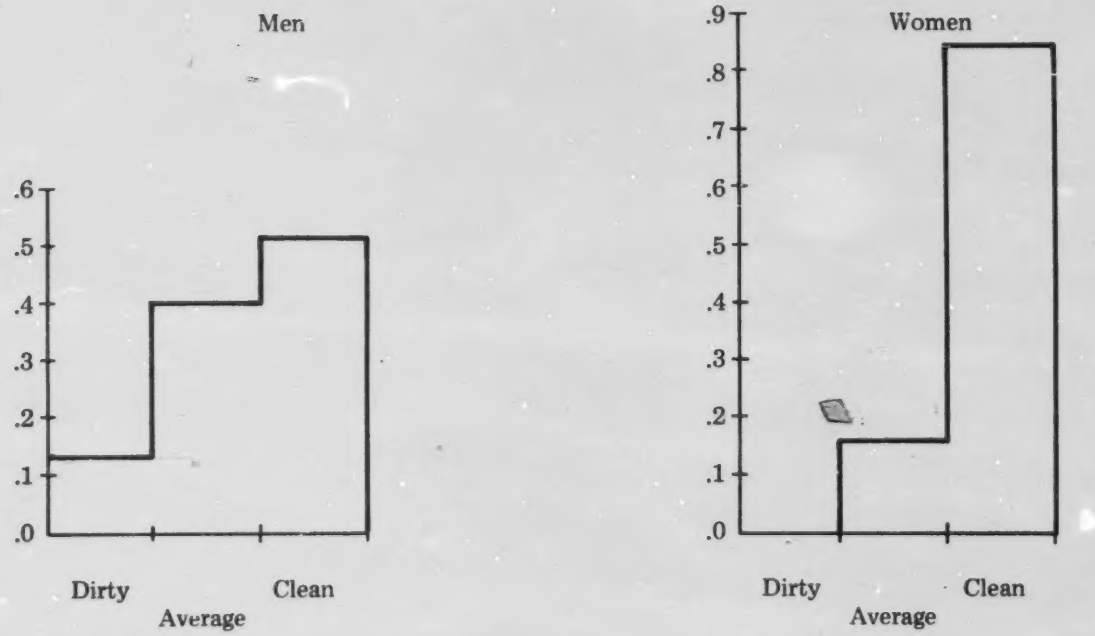
Figure 1 presents the distributions of men and women in the illustrations in the various categories of strength and cleanliness. As expected, a greater proportion of the women were shown as clean and exhibiting little strength. In the cleanliness categories, the difference in the distributions of men and women showed that the women illustrated were more likely than men to be judged as clean and less likely to be dirty or only moderately clean. In the strength categories, the greatest differences occurred between the strength exhibited (manual work and some strength categories) and the no strength exhibited categories (little strength and sedentary categories). In other words, while women were not always illustrated as sedentary, rarely were they shown exhibiting any amount of strength; instead, they were usually performing light duties.

On analysis of the variables recorded from reading the text of the materials, it was found that 75 percent of the proper names were male. Along with the fact that 75 percent of the illustrations with one sex only were male, this seems to indicate that the text and the illustrations exhibit the same amount and type of bias. The use of the titles Mr., Miss, and Mrs. was about equal for the male and female counterparts. The title Mr. was used in 45 percent of all titles while the female titles were used 55 percent. Of the female titles used, 49 percent were Miss and 51 percent were Mrs. Comparing this with the actual proportion of the female labor force which is single (20 percent, according to the Women's Bureau, 1971), again we see that the materials were presenting to high school students a rather distorted view of reality. The title Dr. was used 83 percent of the time in conjunction with a male proper name, while only 17 percent of the time with a female proper name.

The analysis of pronoun usage showed that "he" was used much more frequently than the pronoun "she." "He" was used "often" in almost half of the materials, while "she" was used "none" in almost half of the materials. The second person or plural forms of the pronoun were used slightly more than "some" on the average. If the numbers 0 = "none," 1 = "some," and 2 = "often," are ascribed to the categories of usage, the use of "he" accounts for approximately 72 percent of the third person singular pronouns used. This is very closely related to the percentage of males illustrated and male proper names used and seems to indicate that the use of "he" is meant specifically to refer to the male part of the population rather than to the generic whole of "man."

Fig. 1. Distributions of Men and Women Appearing in the Illustrations of the Overall PMM Sample in the Strength and Cleanliness Categories.





Thirty-six percent of the materials mentioned something about the fact that women have different career patterns than men and 14 percent of the materials indicated that women were paid differently than men. Thirty percent of the materials mentioned something about working mothers in the text.

On the average there were 3.41 stereotyped quotes and 1.89 non-stereotyped quotes cited per material. The average rating was somewhere between stereotyped and neutral. but closer to stereotyped with a rating of 2.23 where 0 = extremely stereotyped (there was one material that fell in this category), 1 = very stereotyped, 2 = stereotyped, 3 = neutral, and 4 = specifically unstereotyped.

The analysis of the occupational information is given in Figures 2 and 3. Figure 2 shows the separate distributions of men and women in the professional and other-than-professional occupational categories. The topmost figure shows that men and women are distributed almost equally in the labor force at large in professional and in other-than-professional occupations with 14 percent and 16 percent in professional occupations, respectively. In the materials, however, the professional occupations are extremely over-represented with 50 percent of the men and 67 percent of the women illustrated in professional occupations. More than 1,000 illustrations of men and 450 of women were categorized in this sample of materials. In the text, 45 percent of the men and 62 percent of the women were mentioned in conjunction with a professional occupation with a sample size of 2,750 and 1,300 respectively. Analysis shows that not only are professional occupations over-represented, but women are over-represented to a greater extent than men. The sub-categories of professional occupations (teacher, nurse, librarian, and social worker) did not yield enough information for analysis.

Figure 3 shows the different distributions of men and women in other-than-professional categories. Abbreviations used for occupational categories were:

Ma — Managers and administrators

Sa — Sales workers

Cl — Clerical and kindred workers

Cr — Craftsmen and kindred workers

Op — Operative, except transport

Tr — Transport equipment operatives

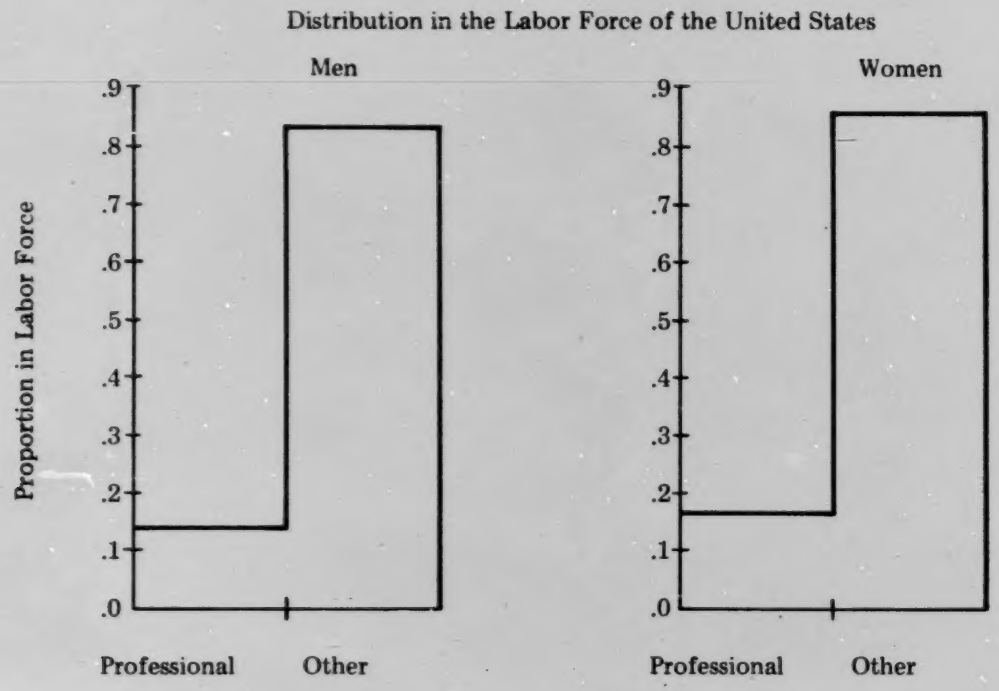
La — Laborers, except farm

Fa — Farm workers

Se — Service workers

The patterns of these occupations in the materials and in the general population of the United States seem to be closely matched. One notable exception is in the operatives, with few or no illustrations or mentions of women appearing in this occupational category.

Fig. 2. Distributions of Men and Women in Professional and Technical Occupations as Compared to Other Occupations.



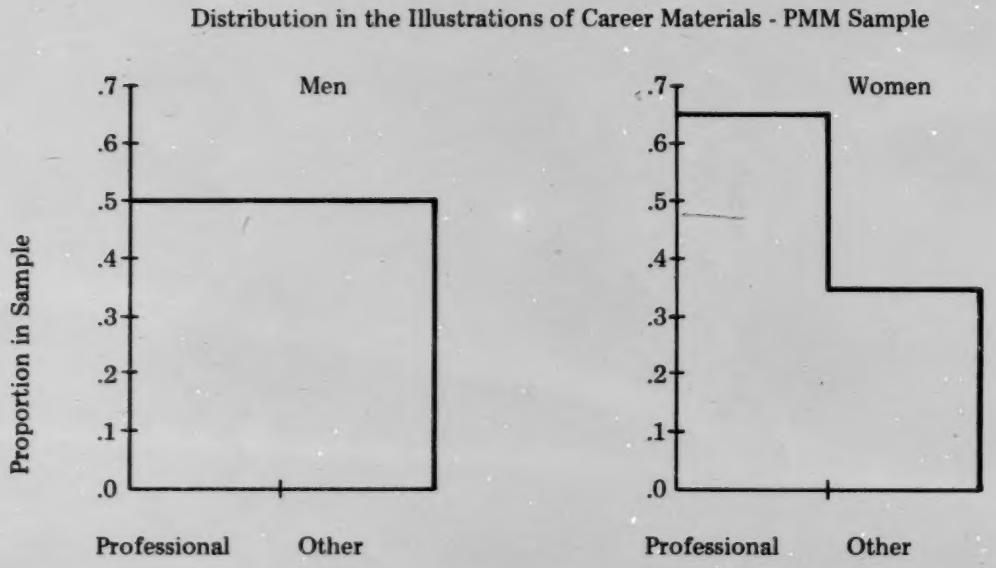


Fig. 2 (Cont'd.)

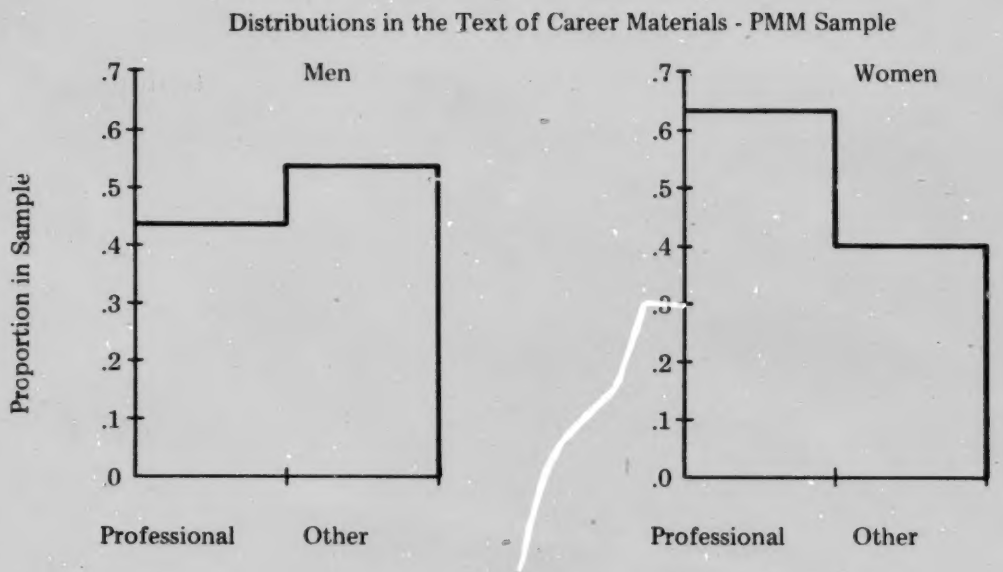
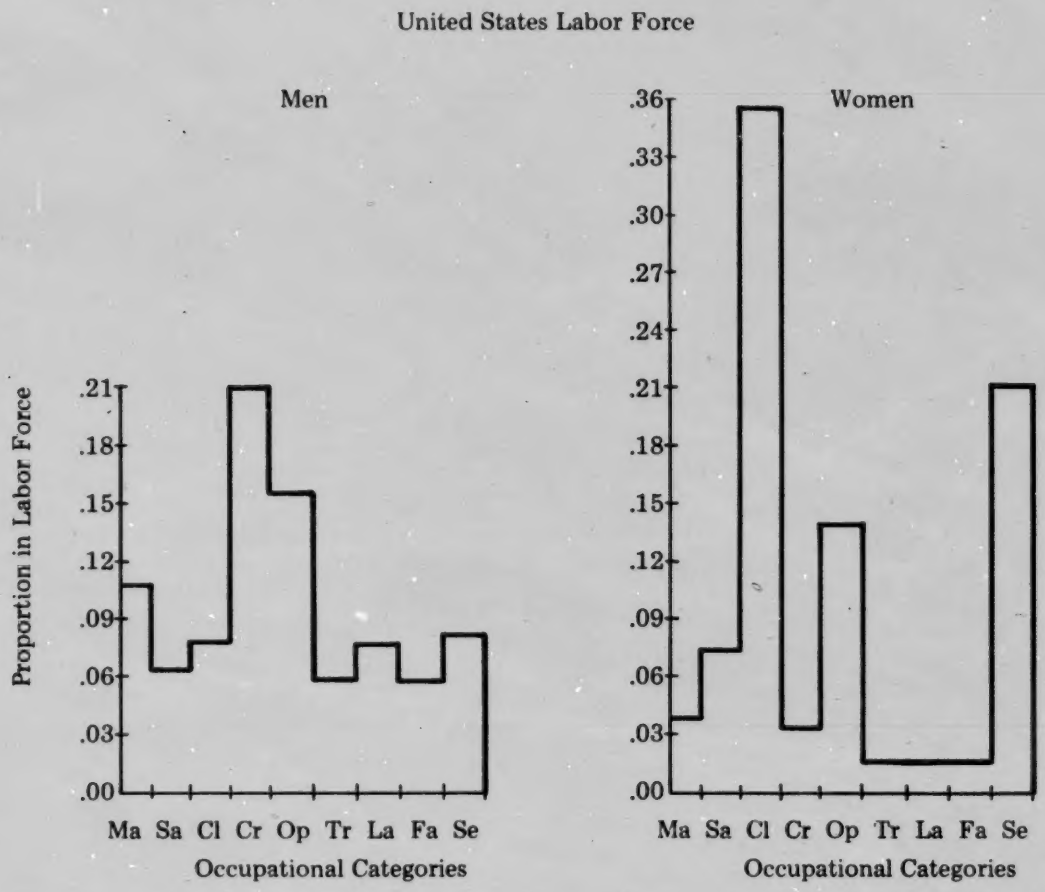

Distributions in the Text of Career Materials - PMM Sample
Men
Women
Proportion in Sample
.7
.6
.5
.4
.3
.2
.1
.0
Professional
Other
Professional
Other

Fig. 3. Distributions of Men and Women in Occupations Other than Professional and Technical



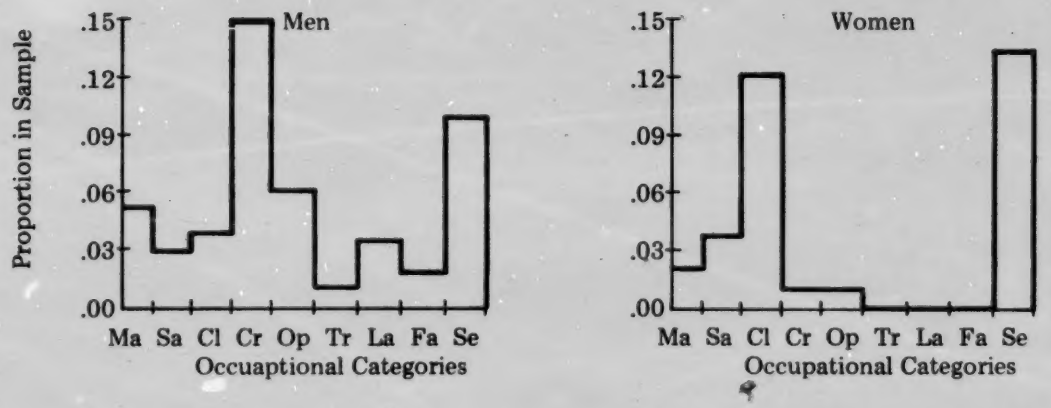
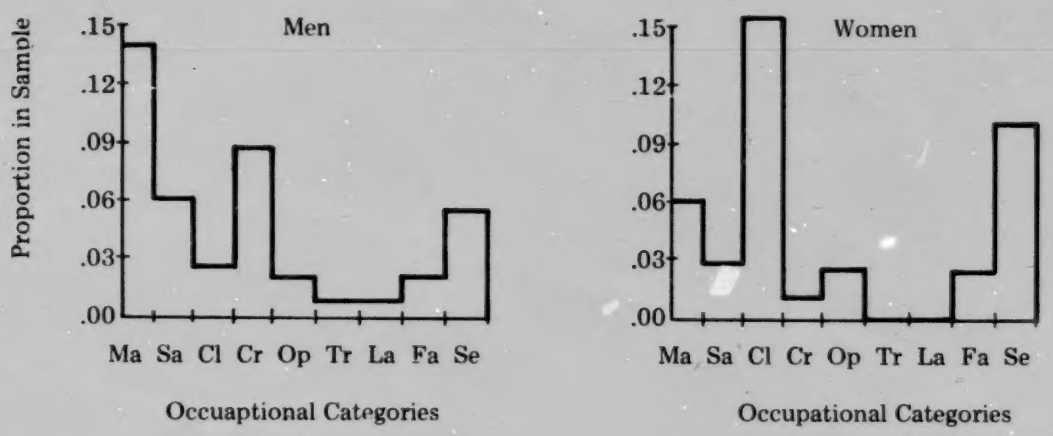


Fig. 3 (Cont'd.)

Distributions in the Text of the Materials - PMM Sample



Occupational Categories - PMM Sample

As mentioned in the methods section, there were five mutually exclusive categories into which a material could be classified. They were: professional and technical, managers and craftsmen, clerical and service, industries and fields, and general information. The materials selected from these occupational categories in the sample were proportionate to the overall population distribution with fifteen, five, seven, twenty-two, and five materials, respectively. Male authors predominated in industries and fields and somewhat in professional. Female authors predominated in clerical and service and in the non-corporate general information materials, while corporate authors were most likely to write about managers and craftsmen and general information materials. The professional books were longest, with an average of almost 147 pages followed by industries and fields (124 pages), general information (98 pages), managers and administrators (94 pages), and clerical and service (78 pages).

As mentioned earlier, 86 percent of the materials contained illustrations. The non-illustrated materials were evenly divided among the various occupational categories with managers and administrators having the smallest proportion. The results of this and later analyses are given in Table 4.

Of greatest interest in this analysis was the main effect of occupational categories and the change of the distribution of men and women in the variables observed across categories. Considering this effect, there is, generally, greater difference between occupational categories than between the two sexes pictured in these illustrations. For instance, professional occupations were more likely to be pictured indoors than outdoors, compared to the other categories of occupations. People pictured in the managers and craftsmen materials were less likely to be interacting than those in other categories. In the clerical and service materials, illustrations showing both men and women had an unusually high percentage of interaction with children. In the clerical and service and the industries and fields materials, illustrations of people were more likely to be in groups of two or more than the other occupational categories.

With respect to the total number of men compared to the total number of women and men pictured, the professional materials had an almost equal representation of men and women pictured, 53 percent men only and 47 percent women only, while this statistic ranges from 74 percent to 100 percent men only in the other materials. In terms of the total number of men and women illustrated, the average number of men illustrated is fairly constant across occupational classes of materials. The number of women pictured varies greatly across occupational categories, with the professional materials containing by far the greatest average number of women illustrated. In a similar vein, the professional materials contained the greatest number of both men and women pictured in the same illustration. Professional women were pictured interacting with children to a much greater extent than in the other categories of materials.

Minority group representation was greatest in the professional materials with an average of 4.67 black men and 3.33 black women illustrated per material, while the industries and fields materials had an average of 2.45 black men and .91 black women illustrated per material, and the general information materials had 2.00 black men and .71 black women. The managerial and craftsmen and the clerical and service materials had almost no minority group representation, except for one man from the Middle East who was shown as a police officer.

In the analysis of the illustrations in terms of the strength exhibited by the characters illustrated, (Table 5), the distribution of men in the professional materials is similar to the overall distribution of women in the various strength categories. The industries and fields materials showed a trend toward a greater weighting of the manual work categories while the general information materials showed an even greater emphasis toward this end of the scale. For women, the distribution for all categories of

Table 4. Results of Analysis of Materials by Occupational Categories - PMM Sample

Variable	Professional	Managerial	Clerical	Industries	General
Illustrations					
Average number of men	12.06	10.00	11.00	18.14	17.57
Average number of women	10.73	------	2.43	3.64	3.58
Average number of both	7.47	1.20	2.57	4.23	2.86
Indoor-outdoor variables	%	%	%	%	%
Percent men outdoors	16	29	31	39	27
Percent women outdoors	3	----	0	8	0
Percent both outdoors	8	50	33	27	6
Interacting variables					
Percent men interacting	67	53	68	81	76
Percent women interacting	65	----	80	73	44
Percent both interacting	63	50	95	70	70
Interacting with children					
Percent men	8	0	5	4	2
Percent women	17	----	6	14	8
Percent both	10	0	28	10	0
One vs. two or more shown					
Percent men shown alone	65	62	48	49	72
Percent women shown alone	62	----	41	50	64
Percent of men to women	53	100	74	83	83
Text					
Proper names					
Average number male	84.80	128.20	27.85	35.18	7.57
Average number female	34.13	19.80	19.57	11.41	.71
Percent male	71	87	59	76	94
Titles					
Percent use of Mr.	35	37	63	46	55
Percent use of Miss	31	11	17	29	22
Percent use of Mrs.	34	52	20	26	22
Percent female Dr.	38	14	0	13	0
Rating	2.33	2.00	2.14	2.23	2.29

34

Table 5. Results of Analysis of Materials by Occupational Categories and Strength and Cleanliness Categories - PMM Sample

Occupational Category		Strength Categories: Manual Work	Some Strength	Little Strength	Sedentary	TOTAL
Professional	% Men	0	14	51	34	100
	% Women	1	11	47	41	100
Managerial	% Men	13	32	28	26	100
	% Women	1	12	51	36	100
Clerical	% Men	5	28	31	35	100
	% Women	0	13	39	48	100
Industries and fields	% Men	16	35	30	19	100
	% Women	1	12	36	51	100
General information	% Men	24	33	26	17	100
	% Women	7	14	35	45	100

		Cleanliness Categories: Dirty	Average	Clean	TOTAL
Professional	% Men	2	15	82	100
	% Women	0	10	90	100
Managerial	% Men	15	47	38	100
	% Women	0	0	100	100
Clerical	% Men	3	33	63	100
	% Women	0	25	75	100
Industries and fields	% Men	24	44	33	100
	% Women	3	18	79	100
General information	% Men	34	37	29	100
	% Women	13	27	60	100

materials showed a fairly similar breakdown on the strength continuum. The distribution of women in the general information materials was relatively weighted toward the manual work part of the scale, probably carried along by an overall trend of these materials. Of special interest were the distributions of men and women that were almost exactly alike in the illustrations in the professional materials.

Distributions on the cleanliness categories were similar to the distributions on the strength categories. That is, the men in the professional materials were distributed similarly to the overall distribution of women. Clerical and service men appeared cleaner than men overall, while industries and fields materials and general information materials emphasized the cleanliness category less than the others for men and somewhat for women.

Men were not evenly distributed by occupational materials with respect to expression of emotion. The smallest percentage of emotional men were in the industries and fields materials (8 percent), while the greatest percentage were in the general information category (22 percent). Similarly, even more exaggerated results were found for the women illustrated in these materials. Twelve percent of the women illustrated in the industries and fields materials were shown as emotional, while 44 percent in the general information materials were shown as emotional.

The results of the text variables are presented on the lower portion of Table 4. The professional and managerial and craftsmen materials showed a much greater use of proper names than the other materials. In comparison, the general information materials used fewer proper names. On the other hand, the general information materials made the greatest use of the pronoun "you" so that the text may have been addressed to the reader rather than describing a particular worker.

The professional materials had a greater proportion of female proper names to total number of proper names than any of the other materials, except clerical and service. This seemed to correspond to a greater emphasis in these materials on women's careers in general, although the use of proper names did not show this as strongly as the illustrations. The smaller proportion of male proper names in the clerical and service materials was also an indication that women were emphasized in these materials more than the others. On the other hand, the managerial and craftsmen materials had a great preponderence of male proper names as compared to female proper names.

No real trend appears in the use of the titles of Mr., Miss and Mrs., although it is interesting to note that the title of Mr. was used more in proportion to the titles of Miss and Mrs. in the clerical and service materials, possibly referring to a superior or supervisor.

The use of the second person "you" or plural pronouns was greatest in the general information materials, next greatest in the industries and fields and managerial and craftsmen, and seldom or somewhat in the professional and clerical and service materials. The pronoun "he" was used often in the industries and fields and managerial and craftsmen materials, but more in the professional materials than any others.

The analysis of the questions relating to different career patterns, pay, and the existence of working mothers showed that the professional materials contained the greatest number of positive responses.

In terms of the number of stereotyped and non-stereotyped quotations that received special mention on the instrument, the professional materials had a greater number of both types. Similarly, the industries and fields materials had the next largest number of both types of quotations listed on the instrument. The other materials had fewer of both kinds of quotes.

The professional materials were rated by the project staff to be the least stereotyped as a group with the general information materials not far behind, followed by industries and fields, clerical and service, and managerial and craftsmen materials.

In conclusion, the professional materials seemed to be the only materials in which women were described on a somewhat equal basis with men. Clerical and service materials illustrated and mentioned only a few women and were rated as fairly stereotyped, a result not altogether expected. General information and industries and fields materials did present some alternatives for women, but to a lesser extent than the alternatives presented for men. Managerial and craftsmen materials showed a few women and seemed to be directed at a male audience.

Analysis of Materials by Sex of Author - PMM Sample

In the materials there was a fairly equal distribution of exclusively male, female, and corporate authors with 21, 17, and 16 respectively. Materials were classified as being written by only men, only women, or corporate, meaning that author was unlisted or unknown. Two materials which were jointly written by male and female authors were not included in this analysis.

Materials written by women were longer than those written by men, with an average length of 156 pages compared with 134 for men and 61 for corporate publications. Materials written by men were illustrated more often (81 percent) than those written by women (77 percent), while the books written by corporate authors were illustrated 100 percent of the time.

There were few overall differences between men and women authors in types of illustrations, as can be seen in Table 6. Two differences that did stand out were that women authors illustrated women as being outdoors more than did men authors (10 percent to 0 percent of the women were shown outdoors) and when two or more people were illustrated, women authors were more likely to show people interacting.

Corporate authors differed from men and women authors in the type of illustrations, generally showing more illustrations of only men (89 percent) than did men authors (68 percent) or women authors (62 percent). This was because corporate authors were more likely to provide materials about non-professional occuaptions. The analysis by strength and cleanliness categories showed a greater emphasis on manual work and less on cleanliness than either the male or female authors. (See Table 7 for these data.) This emphasis was greater for the men who were illustrated than for the women illustrated. In the text, men authors used a greater percentage of female proper names (30 percent) than women authors (25 percent), while corporate authors used almost entirely male proper names with only 9 percent female proper names. The title Mr. was used more often (53 percent) by men authors than women authors (41 percent) or corporate authors (25 percent). Mrs. was used more often by the men authors than Miss, while the opposite was true for the women authors. Women authors were the only authors to use the title Dr. in conjunction with a female proper name (23 percent of all "Dr.'s" mentioned in materials written by women) in any substantial way.

With respect to pronoun usage, corporate authors used the second person "you" and the third person "he" more than men or women authors. Men authors, on the other hand, use "he," "she," and "you" less than women and corporate authors. Women authors made more use of the pronoun "she" than any of the other authors.

Women authors were more likely to mention the fact that women were paid differently and had different career patterns than men authors. Most striking was the mention of working mothers,

Table 6. Results of Analysis of Materials by Sex of Author

Variable	Men Authors	Women Authors	Corporate Authors
	21	17	16
Illustrations			
Average number of men	13.00	9.06	24.88
Average number of women	6.19	5.65	2.94
Average number of both	5.00	4.35	3.50
	%	%	%
Indoor-outdoor variables			
Percent men outdoors	29	25	37
Percent women outdoors	0	10	3
Percent both outdoors	17	11	24
Interacting variables			
Percent men interacting	53	79	77
Percent women interacting	62	82	38
Percent both interacting	58	84	73
Interaction with children			
Percent men	7	8	2
Percent women	18	15	11
Percent both	10	15	4
One vs. two or more shown			
Percent men shown alone	53	57	59
Percent women shown alone	54	53	28
Percent of men to women	68	62	80
Text			
Proper names			
Average number male	46.29	100.94	14.06
Average number female	19.86	32.88	.88
Percent male	70	75	94
Titles			
Percent use of Mr.	53	41	25
Percent use of Miss	18	31	25
Percent use of Mrs.	30	28	49
Percent female Dr.	3	23	0
Stereotyped-un-stereotyped quotes			
Percent stereotyped	3.3	2.0	4.5
Percent unstereotyped	1.9	1.4	1.3
Rating of Stereotyping	1.81	2.76	2.13

Table 7. Results of Analysis of Materials by Sex of Author and Strength and Cleanliness Categories - PMM Sample

Strength Categories

Sex of Author		Manual Work	Some Strength	Little Strength	Sedentary	Total
Men authors	% Men	7	24	44	24	100
	% Women	0	12	56	33	100
Women authors	% Men	7	24	37	31	100
	% Women	1	11	38	49	100
Corporate authors	% Men	15	36	29	20	100
	% Women	1	11	39	50	100

Cleanliness Categories

		Dirty	Average	Clean	Total
Men authors	% Men	14	26	60	100
	% Women	1	9	90	100
Women authors	% Men	6	32	61	100
	% Women	1	15	84	100
Corporate authors	% Men	20	49	32	100
	% Women	2	25	73	100

which was almost nonexistent in materials by men and corporate authors, but fully 65 percent of the materials by women authors mentioned something about working mothers.

Corporate authors had twice the proportion of stereotyped quotations per page as women authors. Men authors had more specifically un-stereotyped quotes than either women or corporate authors, while women authors had the fewest stereotyped quotes. With respect to the subjective stereotyping rating the materials recieved, women authors received a much less stereotyped rating than either men or corporate authors, while corporate authors received a less stereotyped rating than men authors.

VGQ Sample

Of the 167 materials originally included in the sample, 151 were located; many of the materials that were not located or received were materials listed as free upon request. The sample represented over 2,800 pages of text and 450 illustrations of people. Ninety-three percent of the materials were written by either coprorate or unlisted authors. Of the materials that had a designated author, 47 percent were written by female authors and 53 percent by male authors. Over 70 percent of the materials were published by a commercial publisher, with an average publication date of slightly later than 1971. The materials in this sample averaged about eleven pages with three illustrations of people per material.

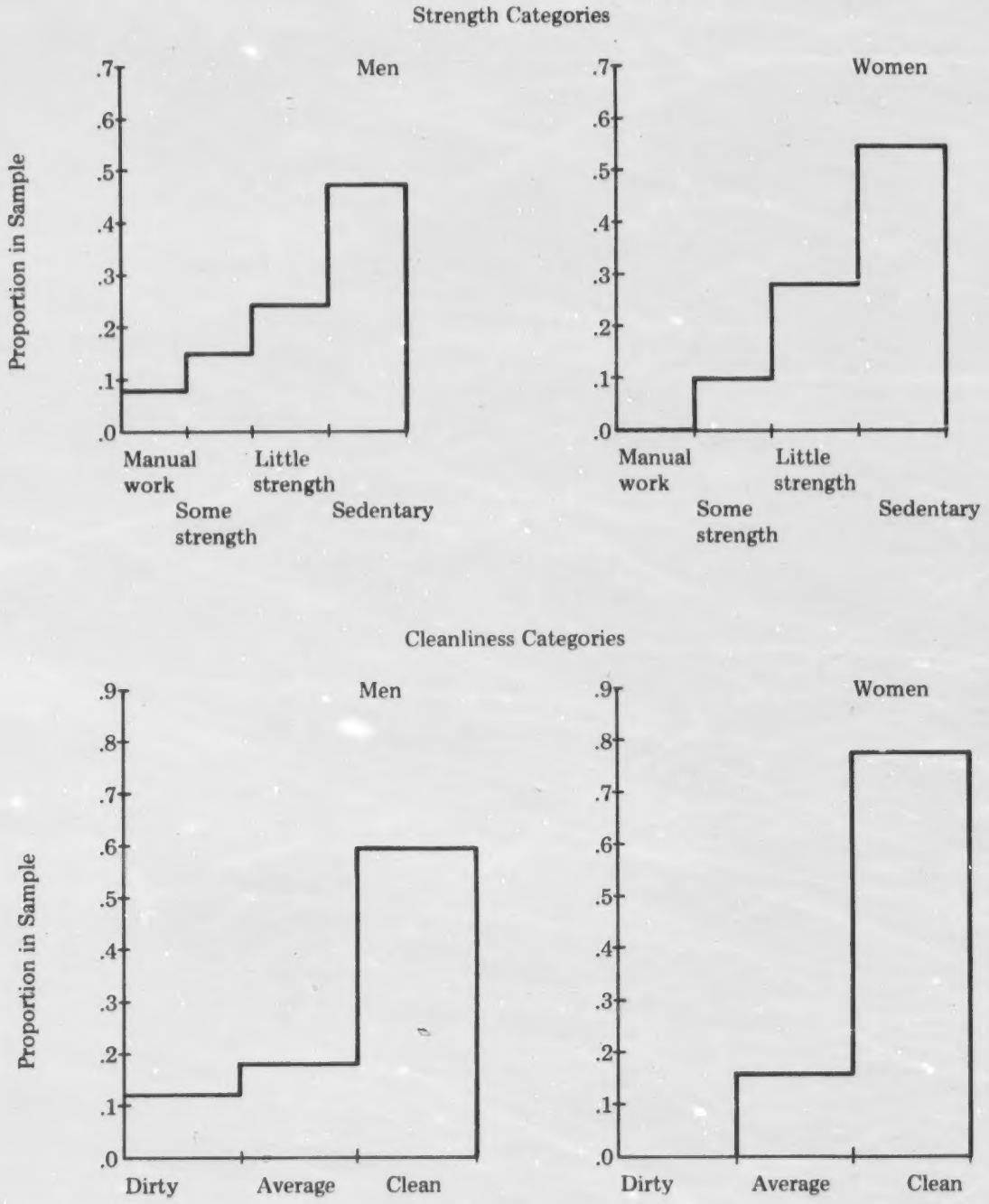
Eighty-three percent of the materials in the sample contained illustrations in which 61 percent were of men only, 21 percent of women only, and 18 percent of men and women together. Of the illustrations that were of only one sex, 25 percent were of women and 75 percent were of men. Analysis of some aspects of the illustrations by sex showed that 68 percent of the men only and 84 percent of the women only were pictured alone rather than in groups of two or more. When two or more people were shown, 80 percent of the men only, 61 percent of the women only, and 77 percent of both sexes together were shown as interacting. It was also found that 22 percent of the men only, 10 percent of both, and 6 percent of the women only were pictured as being outdoors. Three percent of the men only, 6 percent of the women only, and 5 percent of both men and women illustrations showed interaction with children.

Illustrations of minority groups showed about 7 percent of the men and 11 percent of the women pictured were black. Two percent of the women, and less than 1 percent of the men represented other minority groups. The fact that the data showed a higher percentage of minority women than men may be due to minority women being more likely to be employed than white women or it may be that publishers see this as a chance to represent two "minority" groups.

The distributions of men and women in the various strength and cleanliness categories are presented in Figure 4. In the strength category, no women were shown exhibiting strength involved in manual work, while 7 percent of the men fell into this category. The greatest difference between men and women was found not in the sedentary category, but in the little strength (more women than men) and some strength (more men than women) categories. Thus it appeared from the materials that women are permitted to show some amount of strength but not a great deal. Similar results were found in the cleanliness categories with men shown as needing to bathe after working much more often than women. Women, on the other hand, were shown as neatly dressed more often than men.

The analysis of the text variables showed that when a proper name was used, 60 percent were male and 40 percent were female names. When a title was used (Mr., Miss, or Mrs.), 55 percent of

Fig. 4. Distributions of Men and Women Appearing in the Illustrations of the Overall VGQ Sample in the Strength and Cleanliness Categories.



the time it was Mr., 13 percent Miss, and 31 percent Mrs. When only female titles are considered, 30 percent were Miss and 70 percent Mrs. There was one material in the sample that used the title Ms. The title Dr. was used in conjunction with a male proper name in 97 percent of the cases.

The third person "he" was used much more often than "she" in this sample. The second person "you" and the third person plural form of the pronoun were used only slightly more than "she" and a good deal less than "he." Sixteen percent of the materials made mention of the fact that women may have different career patterns than men, while only 5 percent mentioned that women might receive lower pay than men. Only four percent of the materials in this sample mentioned working mothers.

More quotes were found to be stereotyped than non-stereotyped, with an average of .44 stereotyped and .30 non-stereotyped quotes recorded per material. The average rating given to these materials was 2.32 falling somewhere between stereotyped (2) and neutral (3) but leaning more towards stereotyped.

Figure 5 gives the distributions of men and women in the professional and other-than-professional occupational categories. The professional occupations were over-represented in both the illustrations and the text of the materials. The representation of men and women illustrated in professional occupations was similar in terms of this categorization, with 55 percent of men and 56 percent women. Analysis of occupations in the text showed that women were over-represented in professional occupations somewhat more than men, with 42 percent of the men and 52 percent of the women in professional occupations.

The relationship between the ratings of these materials assigned by the VGQ reviewers and the ratings of sex-role stereotyping given by the project staff was minimal with a correlation of .15. Reading difficulty as rating by the VGQ reviewers was again only slightly related to sex-role stereotyping with a correlation of .10. Therefore, ratings by VGQ reviewers are inadequate for judgement of sex-role stereotyping.

Occupational Categories - VGQ Sample

Some of the originally sampled materials were unavailable, reducing both the sample and population sizes. The final sample and population sizes are given in Table 8.

Almost all of the materials were written by corporate authors except the General Information and Miscellaneous materials. Average length of the materials in most occupational categories was between three and four pages, as shown in Table 8. Some notable exceptions were professional materials with an average of over nine pages, farm workers materials with a mean of sixteen pages, armed services materials with an average of amost thirty-eight pages, and general information and miscellaneous materials with averages of sixty-six and seventy pages, respectively.

From Table 8 one can see that almost all occupational categories had more men only illustrated than women only. The one notable exception was in the armed services category where 27 percent of the illustrations were of men only. This is probably due to the fact that one fairly long book "Careers for Women in Uniform" fell into this category. The same category had more illustrations of women outdoors than any other category. Men, on the other hand, were shown outdoors more than 50 percent of the time in the transport equipment, laborers, farm workers, armed services, and miscellaneous categories, mostly in blue collar occupations.

Fig. 5. Distributions of Men and Women in Professional and Technical Occupations as Compared to Other Occupations - VGQ

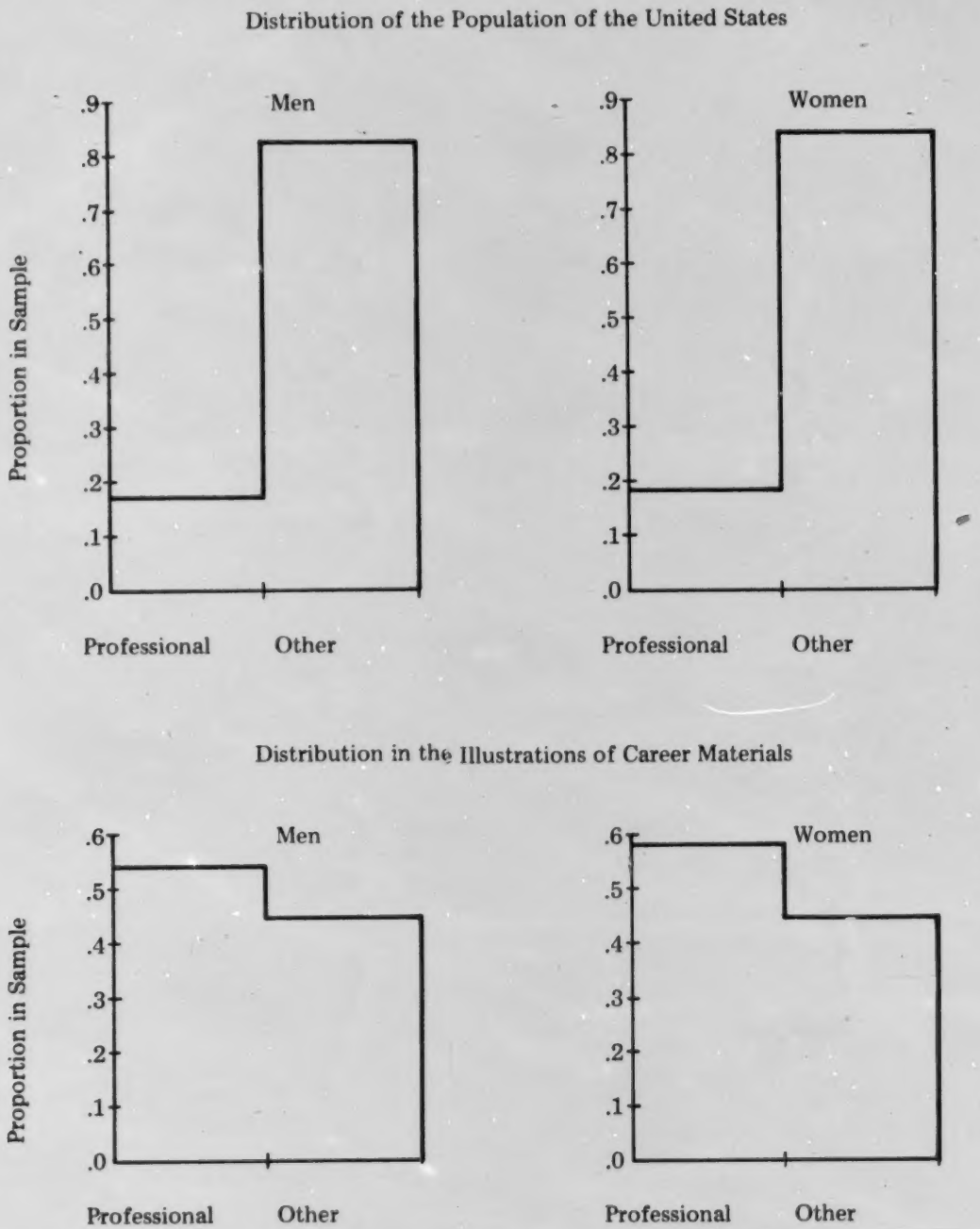


Fig. 5 (Cont'd.)

Distributions in the Text of the Career Materials

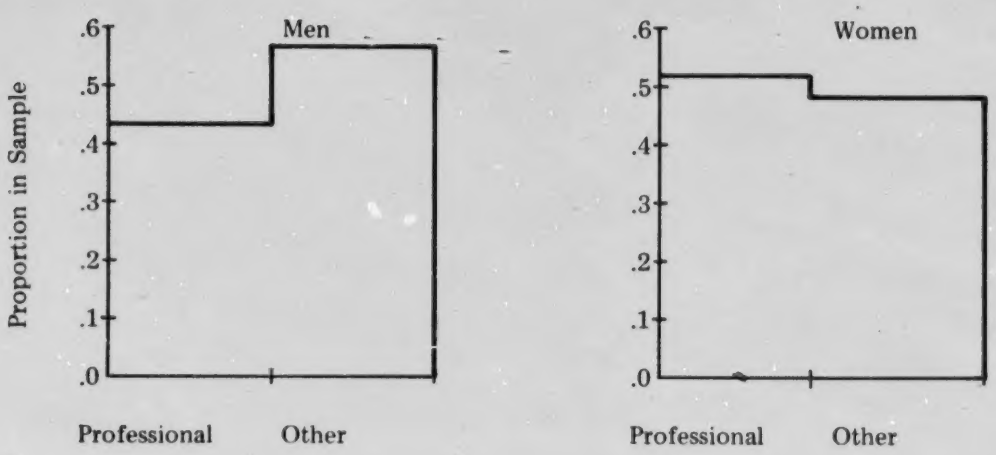


Table 8. Results of Analysis of VGQ Sample by Occupational Categories

	Pr 1	Ma 2	Sa 3	Cl 4	Cr 5	Op 6	Tr 7	La 8	Fa 9	Se 10	Ar 11	Ge 12	In 13	Mi 14	TOTAL
Number of materials in sample	36	8	8	6	9	7	8	8	8	7	8	8	14	6	151
Number of materials in population	445	50	33	55	110	23	12	8	11	43	12	48	170	14	1034
Average number of pages	9.08	3.88	3.75	4.67	4.89	4.00	3.75	3.38	16.63	3.14	37.75	65.75	6.57	69.83	
Percent commercial publishers	75%	75%	75%	83%	58%	100%	100%	63%	100%	29%	88%	88%	57%	50%	
Illustrations															
Average number of men	1.41	.26	.38	.0	1.95	.72	.76	1.01	1.00	.57	1.51	6.25	1.43	.34	1.84
Average number of women	.44	.0	.38	.84	.0	.14	.0	.0	.0	.29	4.00	3.50	.92	.0	.62
Average number of both	.61	.38	.13	.67	.05	.0	.13	.0	.0	.14	2.13	1.50	.64	.50	.54
Indoor-outdoor variables	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Percent men outdoors	12	0	0	—	33	20	50	75	87	25	64	27	22	100	22
Percent women outdoors	7	—	0	0	—	0	—	—	—	0	31	5	0	—	6
Percent both outdoors	5	0	0	0	0	—	0	—	—	0	18	15	22	50	10
Interaction variables															
Percent men interacting	89	100	100	—	66	100	34	79	50	100	72	100	45	0	80
Percent women interacting	100	—	100	0	—	0	—	—	—	0	25	100	0	—	61
Percent both interacting	87	100	100	75	0	—	100	—	—	100	47	83	56	67	77
Interaction with children															
Percent men interacting	8	0	0	—	0	0	17	0	0	0	0	0	0	0	17
Percent women interacting	10	—	0	0	—	0	0	—	—	48	0	5	0	0	61
Percent both interacting	0	0	0	0	0	—	100	—	—	0	0	33	0	0	46

Table 8 (Cont.)

	Pr 1	Ma 2	Sa 3	Cl 4	Cr 5	Op 6	Tr 7	La 8	Fa 9	Se 10	Ar 11	Ge 12	In 13	Mi 14	TOTAL
One vs. two or more shown	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Percent men shown alone	49	50	0	—	84	60	50	38	50	75	9	72	55	50	68
Percent women shown alone	75	—	0	80	—	0	—	—	—	100	100	38	74	100	84
Percent of men to women	76%	100%	50%	0%	100%	84%	100%	100%	100%	66%	27%	64%	61%	100%	75%
Text															
Proper names															
Average number male	3.75	.88	.0	1.33	.16	1.00	.75	.25	3.13	.0	1.50	22.63	1.21	42.50	
Average number female	2.75	.0	.0	.67	.05	.14	.0	.0	.13	.14	2.63	8.25	3.86	26.50	
Percent male	63%	100%	—	67%	76%	88%	100%	100%	96%	0%	36%	73%	24%	62%	60%
Titles															
Percent use of Mr.	61	—	—	0	—	—	—	—	—	0	0	36	50	76	55
Percent use of Miss	12	—	—	50	—	—	—	—	—	0	31	22	0	3	13
Percent use of Mrs.	28	—	—	50	—	—	—	—	—	100	69	42	50	21	31
Stereotyped/Un-stereotyped quotes per page															
Percent stereotyped	8	8	11	8	6	9	3	14	6	21	12	.4	10	.3	
Percent un-stereotyped	7	6	8	13	1	0	0	0	0	11	16	.7	.5	.1	
Rating	2.39	1.75	2.25	2.50	1.74	1.43	1.88	2.13	1.75	2.57	2.50	2.38	2.71	2.83	2.32

Abbreviations for Occupational Categories

Pr: Professional, technical, and kindred workers
Ma: Managers and administrators
Sa: Sales workers
Cl: Clerical and kindred workers
Cr: Craftsmen and kindred workers
Op: Operative, except transport
Tr: Transport equipment operatives
La: Laborers, except farm
Fa: Farm workers
Se: Service workers
Ar: Armed services
Ge: General information
In: Industries and fields
Mi: Miscellaneous

Within any one occupational category, women were either shown as all interacting (professional, sales and general information) or none interacting (clerical, operative, service workers and industries). This may be due to the fact that the number of illustrations in this sample showing two or more women was quite small; however, the same pattern generally does not hold for the illustrations of both sexes together. Men were shown interacting with children only in the professional and transport equipment operatives occupational categories, while women were shown with children in the professional, service, and general information categories. Men and women shown together and interacting with children occurred in the transport equipment operatives and general information categories. There did not appear to be any consistent pattern within occupational categories as to whether one, two, or more people were illustrated.

In terms of minority representation for both men and women, the armed services, general information and industries and fields categories had a large percentage of blacks illustrated. For men only, the managers, laborers, service, and especially the miscellaneous categories had a sizeable proportion of blacks illustrated while the professional category was notably absent from the list. Black women on the other hand, were well-represented in the professional and sales occupational groups. Other minority groups were not represented enough in this sample to comment.

The analysis of the text variables with respect to the occupational categories showed that the use of male proper names predominated over female proper names in all categories except armed services and industries. The professional, clerical, and miscellaneous categories also had fewer than 70 percent male name representation. Titles were used so infrequently that a detailed analysis was impossible.

The second person pronoun was used in materials outside the ten specific census categories, mainly in the general information, armed services, and industries categories. The exception to this was the service category, which also used "you" to some extent. The use of the third person "he" was most prevalent in the ten census categories, excepting again the service and perhaps the professional category. The opposite was the case for the third person, "she," which was rarely used in the ten census categories, excepting the service and the clerical categories. "She" was used somewhat more often in the armed services, general information, industries, and miscellaneous categories.

In the categories of managerial, crafts, operatives, transport equipment operatives, laborers and farm workers, no mention was made of working mothers nor of the fact that women had different career patterns or different pay. All of the above materials were less than five pages long on the average, which could perhaps account for the deficiency; however, some of the other shorter materials (sales and clerical) did mention some of these ideas.

Considering the ratings of the materials, the service, clerical and professional were rated (in that order) as least stereotyped of the ten census categories, while the operatives category was rated as most stereotyped. The armed services, general information, industries, and miscellaneous categories were rated as less stereotyped than the ten census categories with the industries and miscellaneous categories being the least stereotyped of all.

Quotations

Part IV of the project instrument requested the raters' general impressions of each career material. Included in this section were questions asking the raters to record particular quotations that were (1) extremely stereotypic or (2) non-stereotypic. The purpose of reporting the response to these questions was to illustrate to the reader, by use of example, the subtle and/or seemingly

harmless manner in which role stereotypes are conveyed. Table 9, representing the PMM materials, and Table 10, representing the VGQ materials, include a selected sample of the recorded quotations, grouped into categories allowing the reader to compare stereotypic and non-stereotypic handling of similar categories. Although many of the quotations could fit into more than one category, selection was made in terms of the most representative examples of each category. It should be kept in mind that the quotations listed are merely examples and should not be considered models.

Interestingly enough, although some authors attempted to deal with the issue of role stereotyping, they were often inconsistent in this attempt, including both very stereotypic and non-stereotyic quotations within a single publication and, at times, within a single passage. There are a number of explanations which could account for this inconsistency. Perhaps because of the complexity of the subject or the lack of literature available on the topic, the authors and/or publishers did not clearly understand the elements that contribute to role stereotyping. Another possible explanation points to a lack of concern in dealing with role stereotyping, suggesting that the non-stereotypic aspects of the career materials were purely accidental rather than consciously planned.

Results of the Hypothesis Tests

H_1 There were fewer male adult models than female adult models presented in career guidance materials intended for use with grades 9-12.

Because of its more stable nature, the PMM sample was used to perform this test. On the average, there were 9.77 more men only illustrated than women only illustrated and 34.48 more male proper names than female proper names used per material. These means are significantly different from 0.0 with a .01 probability and respective t's of 3.123 and 3.099 with 55 degrees of freedom. The null hypothesis of fewer male adult models than female adult models is rejected.

H_2 The distribution of occupational models presented in career guidance materials intended for use with grades 9-12 was similar for men and women.

Again, the PMM sample was used to perform this test. Chi-squares for the illustrations (X^2=314.76, with 9 df) and for the text (X^2=758.93, with 9 df) were significant well beyond the .001 level (27.88). There is no question that men and women were shown in different proportions in the various occupational categories.

H_3 Fewer than 5 percent of the career guidance materials intended for use with grades 9-12 include models of working mothers.

In the PMM sample, over 30 percent of the materials mentioned something about working mothers, such that this null hypotheses must be rejected. In the VGQ sample, 4 percent of the materials mentioned working mothers. Using the normal approximation to the binomial, a t of 1.93 with 56 df is found and the null hypothesis is accepted with a one-tailed test.

H_4 Fewer than 5 percent of the career guidance materials intended for use with grades 9-12 show indications of current inequalities in pay between men and women.

The percentage of materials that mentioned differential pay for men and women was 14 percent for the PMM sample and 5 percent for the VGQ sample. Thus, the null is rejected. That is, five percent or more of the materials in both samples mentioned the fact that women are paid differently than men.

Table 9. Quotations from PMM Sample

Category of Quotation	Stereotypic Examples	Non-stereotypic Examples
Language	"Girls will work at sorting and film numbering. . ." Trade and Industrial Education	"Many young men and women enter farming and ranching careers each year." Looking Forward to a Career: Agriculture, p. 22
	"They'll hire girls too and handicapped people will find jobs if they qualify." Popeye and Environmental Careers, Joe Gill, p. 16	"It is a good field for young men and women because there are great advancement opportunities." Your Future in the Bakery Industry, p. 36
		"Many manufacturers sell directly by sending salespeople to the customer's home." Distribution and Distributive Careers, p. 28
Omission/inclusion	"You want to be a professional man." Looking Forward to a Career: Dentistry, p. 36	"Boys expect to spend a good part of their lives working at a job. But did you know that nine out of ten girls will work sometime during their lives?" Looking Forward to a Career: Home Economics, p. 2
	"Careers in prosthetics and orthotics are primarily for men." Career Opportunities: Health Technicians, p. 112	"This chapter will deal with many of the careers in business, industry, and government that beckon both young men and women." Looking Forward to a Career: Agriculture, p. 80
	"Most boys do not regard school as a fun place. . ." Roy Rogers, King of the Cowboys, William L. Roper, p. 41	". . . the proportion of women, blacks and members of other minority groups will increase, as the doors are opening wider to them." Careers of the Future and the Present: Paraprofessions, p. 65
	"The experience of millions of workers shows that when a man has a job suited to his abilities and training, he is a much better worker." Your Future in Nuclear Energy Fields, William E. Thompson, Jr., p. 102	"These positions are open to persons of any race, creed, or faith and equally to both sexes." Literary, p. 432
	"For the keen, diligent and interested young man. . ." Your Future in Hotel Management, p. 77	

Table 9
(cont.)

Category of Quotation	Stereotypic Examples	Non-stereotypic Examples
Omission/inclusion	"Drafting is primarily a field of work for men." Furniture Industry ". . . jobs involve detailed work such as drawing, precise measuring, computations and similar work to which women are well suited." Your Future as an Electronic Technician, John E. Keefe, p. 94	
Strength/weakness	"As a general rule women are not hired as driver-salesmen because of the physical labor connected with the job. But in some areas of the country where there is a shortage of qualified men, women have been hired. . . " Your Future in the Bakery Industry, p. 140	"Physical strength is naturally an asset, but a 100-pound 5'2" woman with a will could install a muffler just as well as a 200-pound man." Trade and Industrial Education
Traditional career role (helping)/ competitive career role	"It provides a chance to serve society—a reason that seems more important to women than to men." Looking Forward to a Career: Dentistry, p. 76 "You can probably guess the specialty chosen by most women dentists — working with children (pedodontics)." Looking Forward to a Career: Dentistry, p. 78 "A sales career has unusual appeal for certain types of women who, in addition to the gratifying compensation, enjoy the heart-warming reward of working closely with people on a personal, conscientious, sympathetic, and understanding basis." Your Future in Insurance, Armand Sommer and Daniel P. Kedzie, p. 130	". . . women clamored to become nurses because it was one of the few vocations open to them." Your Career In Nursing, Mary Searight, p. 39 "He or she is a member of a technical team upon which management depends most heavily." Your Future in the Bakery Industry, p. 36 ". . . fully trained scientific personnel (which means men or women who have at least a master's degree in a science, and preferably a doctorate) are in woefully short supply. . ." Trade and Industrial Education "Our management candidates are chosen annually; youthful men and women, with mature attitudes, most of them should be in responsible positions after two or three years as trainees." Your Future in Hotel Management, p. 46

Table 9
(cont.)

Category of Quotation	Stereotypic Examples	Non-stereotypic Examples
Traditional career role (helping)/ competitive career role	"The medical and dental secretarial career is chiefly for women." Career Opportunities: Health Technicians, p. 198	"The girl who is looking toward a career in business should determine the promotion policies of her prospective employers. If executive positions are open only to men, she would do well to look elsewhere." Literary, p. 107
	"Men do most of the preparing (food), and women much of the serving." Your Future in Hotel Management, p. 35	
	". . . job duties for policemen are: directing traffic, giving first aid to accident victims, investigating criminal activities, and working with mounted, motorcycle, harbor, or helicopter patrols, the canine corps, or mobile rescue teams. Policewomen often work with juvenile delinquents, try to locate lost or runaway children, and book, search, and fingerprint women prisoners." Concise Handbook of Occupations, p. 225	
	"The baking industry is one of the few industries where a woman's profession or job can be a real complement to her domestic duties." Your Future in the Bakery Industry, p. 142	
Appearance	"The gentlewomen then, as now, were interested in having their homes look attractive." Furniture Industry	
	"All wear attractive uniforms. . .and have interesting jobs with lots of men around." Looking Forward to a Career: Government, Arvonne Fraser, p. 104	
	"The words were spoken by a breathtakingly beautiful blonde young woman. . ." Your Future as a Home Economist, Jeanne Paris, p. 95	

Table 9
(cont.)

Category of Quotation	Stereotypic Examples	Non-stereotypic Examples
Home orientation/ work orientation	"Our industry, like many others, is directed, managed, planned, and operated by men making products for women." Your Future as a Home Economist, Jeanne Paris, p. 49	". . . majority of nurses get married and have children and are still able to continue their careers." Your Career In Nursing, Mary Searight, p. 58
	"Women have an additional reason to pursue a liberal arts program. In many ways they are the custodians of the culture, the ones who pass along the heritage to the children. Also, women are frequently more concerned with the cultural life of their families and their communities than are their husbands, and are usually the mainstay of volunteer work to bring music, art, and theater to the community." Facing Facts About Preparing for Your Future, p. 18	"Girls of all races, colors, and creeds alike, aided by the Women's Liberation Movement, entered occupational fields, including apprenticeships in the skilled trades, where women had never trod before." Your Career If You're Not Going to College, Sarah Splaver, p. 13
	"Another example is life insurance. Consider the effect on a family of the loss of its father. What can the mother do to support herself and the children?" Your Future in Insurance, Armand Sommer and Daniel P. Kedzie, p. 22	"We need many, many more women dentists in America. And being a dentist combines well with being a wife and mother." Looking Forward to a Career: Dentistry, p. 3.
	". . . it would be difficult for women to do their shopping or men to get to work (without cars)." How Automobiles are Made, David C. Cooke, p. 62	"And often they are able to combine having a family with a career." Looking Forward to a Career: Home Economics, p. 7
		"If your mother is one of the millions of working mothers in this country. . ." Looking Forward to a Career: Agriculture, p. 91
		"Part-time night and rotating shifts are routinely offered in large hospitals; this arrangement attracts women who want to combine career with marriage and child care." Careers in the Health Field, p. 67

Table 10. Quotations from VGQ Sample

Category of Quotation	Stereotypic Examples	Non-stereotypic Examples
Language	"It has had a direct bearing on where a person builds his home, the schools his children attend, the way he earns his living. . ." Muffler Installer, p. 1	". . . a growing industry—one whose man - and womanpower needs represent an almost insatiable demand for qualified and ambitious young people." Retailing: New Opportunities for Managerial Careers, p. 1
		"The salesman or saleswoman may. . ." Retail Trade Salesworkers, Wholesale Trade Salesworkers, Manufacturers' Salesmen, p. 322
		"Note: While the pronoun 'he' will be employed throughout this monograph, it should be remembered that many girls and women are found in this occupation." Usher, p. 1 (footnote)
Omission/inclusion	"This is a man's field of employment." Construction Helpers, p.6	"Both men and women Marines may acquire proficiency with such diverse equipment as electronic computers. . ." Marine Corps as a Career, p. 1
	". . . many top executive jobs in industry are filled by men who started as salesmen." Retail Trade Salesworkers, Wholesale Trade Salesworkers, Manufacturers' Salesman, p. 318	"Each service has its own recruiters to interview the prospective military man or woman initially." Basic Facts About Military Service, p. 5
	". . . motors hold high interest for boys." Aim for a Job in Cattle Ranching, Oren Arnold, p. 85	"But most important of all: You won't encounter any color or race barriers in government; and, as one rule has it, no position shall be denied to a person on the basis of sex." How to Get a Job Overseas, Curtis Casewit, p. 30
Strength/weakness	"Although women do not ordinarily perform those duties that call for physical strength and other masculine traits. . ." Policewomen, p. 2	

Table 10
(cont.)

Category of Quotation	Stereotypic Examples	Non-stereotypic Examples
Traditional career role (helping)/ competitive career role	"She (policewoman) is frequently concerned with the assistance or protection of women and children, where her feminine attributes of warmth and understanding are important." Policewomen, p. 2	"Women are in competition with men for various assignments in the Air Force and are trained and promoted under the same policies and procedures." Careers for Women in Uniform, p. 42
	"Men show how to build a well and get clean water, for instance, and women might teach how to cook." How to Get a Job Overseas, Curtis Casewit, p. 18	"Women, whatever their job, play a vital part in the defense of the nation and their value to each of their own services has been proven many times. They do not just replace men, they compete equally with them for jobs and promotions. Nowhere in American society do women really have more equal job opportunities than in military services." Careers for Women in Uniform, p. 37
	"In order to qualify, they (women in the Coast Guard Reserve) must have experience in secretarial, clerical or financial fields. . ." Basic Facts About Military Service, p. 8	
	"Basic to a woman Marine's training in efficient office administration will be a familiarity with typewriters and other office equipment." Marine Corps as a Career, p. 1	
	"It is sometimes called a 'woman's instinct'. Patients find it soothing and comforting to be nursed by an understanding feminine hand. And women gain great satisfaction from this type of work. This is why so many women choose nursing and related jobs in the medical field." Careers for Women in Uniform, p. 81	
	"But nursing is 'woman's territory,' as are many other jobs in the medical and health fields." Careers for Women in Uniform, p. 166	

Table 10
(cont.)

Category of Quotation	Stereotypic Examples	Non-stereotypic Examples
Appearance (concern with)	"On-post or off, they (women Army nurses) enjoy adding decorative accessories bought in their travels, growing plants or gardens, hanging pictures and curtains, as all women love to do." How to Get a Job Overseas, Curtis Casewit, p. 174	
	"The Marine Corps sent twenty of its women to a famous international airline's stewardess school to see how stewardesses obtain their charm, poise, and appeal. . . Wood-paneled walls, carpeting, and soft lights now set the stage for the making of the women Marine Corps officer." Careers for Women in Uniform, p. 149	
	"Femininity is always stressed." Careers for Women in Uniform, p. 151	
	"The services stress beauty hints and grooming and go to great lengths to provide smart and attractive uniforms to keep the woman feminine." Careers for Women in Uniform, p. 202	
Home orientation/ work orientation	"Although there is more and more of a trend for woman to have careers in the business and professional world, a woman's natural instincts are for a home and family." Careers for Women in Uniform, p. 206	"Landscape architecture is a profession where women can earn as much as men and can achieve the same degree of prominence." Landscape Architects, p. 3
	"Not every man is career-oriented and this is certainly true of the majority of women for whom, even in the face of the women's liberation movement of the last few years, a husband, home and family remain the ideal." Starting Over, Damon Stetson, p. 199	"Women occupy high offices in professional organizations and serve on the faculties of colleges of osteopathic medicine as well as on hospital and clinical staffs." Education Annual-The Journal of the American Osteopathic Association, p. 11

Table 10
(cont.)

Category of Quotation	Stereotypic Examples	Non-stereotypic Examples
Home orientation/ work orientation	"Some refer to it as the 'nesting instinct' but, however it is described, it is a powerful and motivating force in the life of a woman." Careers for Women in Uniform, p. 206	"Opportunities for woman in college teaching are increasing, although at present they have a lower percentage of full professorships than their numbers in the profession might indicate. In the past, the best chances for women teachers were in fields such as home economics, but today they are achieving distinction and recognition in every field and at every academic level." College Teachers, p. 2
	"Moreover, she will find that even with an attentive and cooperative husband, she is still going to have to be wife, mother and housekeeper as well as career woman." Starting Over, Damon Stetson, p. 179	
	"It would be illusory to suggest that most working wives are second-career women in the purest sense of the term. They have embarked, to be sure, on a new work experience, but many are not seeking personal fulfillment so much as they are money for their children's education, for a second car. . ." Starting Over, Damon Stetson, p. 176	"The opportunities for advancement to executive positions are relatively good for those secretaries who prove their ability and have an adequate background. Both men and women are advanced in terms of salary increases as they acquire experience and assume more and more responsibility." Executive Secretary, p. 6
	"The service takes it for granted that every young woman expects to marry eventually." Careers for Women in Uniform, p. 202	

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Comparison of the VGQ and PMM Samples

Although the VGQ and the PMM samples were taken from two different sources with only limited overlap between the populations of materials, the basic results were remarkably consistent across the samples. The argument will be made that sex-role stereotyping is a phenomenon that cuts across specific populations of career materials and is evident in many of society's written products.

The differences between the two samples can be readily observed. First, the materials in the PMM sample were longer, containing an average of 121 pages to eleven in the VGQ sample. The PMM materials contained more illustrations, partly as a result of more pages. The majority of the VGQ sample were written by corporate authors, while less than a third of the materials in the PMM sample were written by corporate authors. The VGQ sample also had a 30 percent representation of non commercial publishers compared to a 2 percent representation in the PMM sample. Thus, there appear to be some rather large differences in the types of materials sampled in each case.

Despite these differences, the separation of the illustrations into classes of pictures of men only, women only, and both men and women pictured together, showed that each sample had a similar percentage in each class, namely 61 percent, 21 percent, and 18 percent, respectively. In both cases, when only one sex was illustrated, 75 percent were of men only. In illustrations of only one sex, the VGQ sample illustrated individuals alone more often than in groups of two or more with a greater relative frequency than the PMM sample.

In both samples, the percentage of men illustrated outdoors was greater than that of both sexes pictured together and women only outdoors. Women were shown interacting with children most often, both sexes together were next, with men least likely to be shown interacting with children.

The PMM sample was more likely to have illustrations of blacks than the VGQ sample, although in both cases black women were shown with a greater relative frequency than black men.

Comparing the distributions of men and women in the various strength and cleanliness categories, it appeared that the differences between men and women were fairly consistent across samples, although the shape of the strength distribution was different for the two samples. In both samples, few or no women were shown doing manual work or as dirty and relatively more women than men were illustrated as sedentary.

A comparison of the distributions given in Figures 2 and 5 showed that professional occupations were over-represented in the materials and that they were over-represented to a greater extent for women than for men.

In both samples, the use of male proper names was greater than the use of female proper names, although the PMM sample had 75 percent male names compared to only 60 percent in the VGQ sample. A few books in the VGQ sample that were comparatively long were written especially for women—which could possibly explain the discrepancy. In both samples, the use of Mr. was greater than the use of Mrs. while the use of Mrs. was greater than the use of Miss.

While the second person pronoun was used much more often in the PMM sample than in the VGQ sample, the use of "he" and "she" was similar for both samples.

The percentage of materials that mentioned working mothers, different career patterns, and different pay for women was a function of the total number of pages in the materials and therefore not directly comparable between the two samples. The same is true for the comparison of stereotyped

and non-stereotyped quotations, although 64 percent of the PMM and 57 percent of the VGQ quotations were judged as stereotyped rather than non-stereotyped. Similar types of stereotyped and non-stereotyped quotations were cited in both samples. The average rating given to the VGQ materials was 2.23, somewhat more stereotyped than that given to the PMM materials, 2.32. In conclusion, then, it is argued that, although the materials are from different populations, the sex-role stereotyping observed in each was similar.

Career Materials Purchasers

Responses were obtained from five of the six schools that were participating in the development of a systems approach to career guidance (Operation Guidance), a part of the larger program of research into which this report fits. Three librarians and three counselors returned the survey instrument (Appendix C). The size of the career guidance materials collections ranged from 300 to 2,500 items. A wide range of sources for selection of books and pamphlets was cited, including recommendations from counselors, teachers, students, publishers' handouts, the Personnel and Guidance Journal, School Counselor, Booklist, Library Journal, and Good Housekeeping.

None of the six respondents was currently concerned with determining whether career materials were sex-role stereotyped (one indicated that it was not an important factor). Sex-role stereotyping was ranked last (after socioeconomic status of careers, minority group representation, and reading level) as a criterion for ordering career materials, except in one case where a person from an all-white school ranked it above minority group representation.

Four of the respondents indicated that they would sometimes be willing to spend up to thirty minutes using an instrument to determine sex-role stereotyping in materials. One questioned whether this was really an issue. Four respondents indicated that they would be willing to consider the results if students could accurately use the materials.

While this is in no sense a generalizable sample, it does give some indication that school personnel may need to be sensitized to a possible problem area. Combined with information such as the study of counselors by Bingham and House (1973) which indicated that school counselors in the state of New Jersey could respond correctly to barely half of twenty-five factual questions about women in the world of work, it helps to point up needed pre-service and in-service educational areas.

IV. VALIDITY TESTING

Presented in this section is a description of the variables that seemed to indicate best whether a material would be judged as stereotyped or non-stereotyped. The concern is the prediction of the subjective amount of sex-role stereotyping using variables that could be collected by a person who was not sensitized to the nature of sex-role stereotyping. This analysis may also give the sensitized person a feeling for what is meant when a material is said to be sex-role stereotyped.

These results are presented in two parts. The first part describes the data in relation to the ratings assigned by the project staff who read and then rated the materials. An analysis of the sample partitioned into four categories, each corresponding to a subjective rating, was performed. The second part describes the validity of the findings in relation to ratings by independent outside raters who knew nothing of the nature of the actual instrument.

Ratings by the Project Staff

PMM Sample

The materials representing the five stereotyping categories were as follows: ten materials were judged to be specifically un-stereotyped (SUS), eleven neutral (N), eighteen stereotyped (S), sixteen very stereotyped (VS), and one extremely stereotyped. The last two categories were combined to form the VS category with seventeen materials.

From the earlier analysis of author's sex and stereotyping, it is not surprising to find that the VS and S categories had more male than female authors, while the SUS had more female authors. Corporate authors were more numerous in the N and S categories. There was very little difference in the mean year of publication in the various categories of stereotyping.

Although each stereotyping category had approximately an equal number of illustrations, they differed in the percentage of men only with the VS category containing 91 percent men only, the S category with 86 percent, the N category with 52 percent, and the SUS category with 41 percent. The data supported the use of this variable as a predictor of the degree of stereotyping evident in the materials.

In a more detailed analysis of the illustrations, women were found pictured outdoors only in the VS or SUS materials with none in the intermediate categories. The SUS category pictured the most women outdoors. None of the other indoor-outdoor variables seemed especially interesting. The interaction variable seemed to be related to stereotyping in cases of women only and both sexes together in the illustrations. In these cases (if more than one person was illustrated), the greater the degree of interaction, the less the degree of stereotyping. Illustrations picturing interaction with children was an index that the material would be judged as non-stereotyped, especially if children were illustrated as interacting with men only. The relationship between whether one person alone or two or more people were illustrated and the degree of sex-role stereotyping seemed

sufficiently complex that it did not seem worthwhile as a predictor. Across categories, placement in the various strength and clealiness categories varied with both men and women, probably a function of the fact that more professional materials were placed in the N and SUS categories. The fact that the greatest difference was between categories of stereotyping, rather than between the distributions of men and women, seemed to eliminate these variables from consideration as predictors of stereotyping. Table 11 provides data on these variables.

From analysis of the data collected on the text, it appeared that the SUS materials used proper male names less (39 percent) than all of the others (75 percent), so this variable seemed to be a reasonable predictor of stereotyping. The use of the titles Mr., Ms., Miss, and Mrs. did not seem to be specifically related to the degree of stereotyping except that Miss was used in greater frequency than Mrs. in the SUS materials. The existence of a female Dr. seemed to indicate that the materials would be SUS, except for a few cases in the VS materials.

The use of the second person and plural pronouns made it more likely that the materials would be SUS or N. The use of "he" seemed to be linearly related to the amount of stereotyping in a material, while the use of "she" appeared to be inversely related to this criterion. Both the second person pronoun and the use of "he" were used as variables in the prediction of stereotyping. If mention was made of a difference in women's and men's career patterns or pay, then the materials were less likely to be stereotyped. The mention of a working mother seemed to be a very good indicator that the material would be rated un-stereotyped and was used as a predictor of stereotyping.

VGQ Sample

The results of the breakdown into stereotyping categories of the VGQ sample are presented in Table 11. Two points should be noted before proceeding. The first is that the distribution of materials into the different stereotyping categories is not equal, with eighty-five materials in the S category and seven in the SUS category. Secondly, the number of illustrations is about one-tenth the number in the PMM sample. Together, these considerations indicate that the results of the VGQ sample will not be as reliable as the PMM sample.

Only in the SUS category was there less than 60 percent corporate authors while all other categories had more than 90 percent. Female authors were most prevalent in the SUS category, although some women did write materials that were classified in the S and N categories. As in the PMM sample, the number of pages increased concurrently with the perceived amount of stereotyping. The SUS materials had an average of six pages, while N had ten, S had fifteen, and VS had twenty.

The percentage of men illustrated decreased monotonically with the amount of stereotyping: 81 percent of the pictures of one sex only in the VS category while 30 percent in the SUS category. Women outdoors were only illustrated in the S category, in contrast to the previous results. There did not appear to be any systematic variation of number of people illustrated with degree of stereotyping. No children were shown interacting with adults in the SUS category, again in contrast to the previous sample.

Male proper names were related to the amount of stereotyping, with a greater percentage of male proper names representing a greater degree of stereotyping. This is clear-cut and coincides with the results of the PMM sample. There were only a small number of titles, Mr., Miss, Mrs., and Dr., such that a detailed analysis was not attempted.

As in the previous sample, the use of the second person pronouns and the third person plural

Table 11. Results of Analysis of Materials by Stereotyping Rating - PMM Sample

Variable	VS	S	N	SUS
n	17	18	11	10
Illustrations				
Average number of men	19.47	17.56	11.27	5.90
Average number of women	2.00	2.89	10.27	8.40
Average number of both	2.35	5.00	7.91	3.20
Indoor-outdoor variables	%	%	%	%
Percent men outdoors	32	38	16	31
Percent women outdoors	3	0	0	13
Percent both outdoors	36	24	4	12
Interacting variables				
Percent men interacting	71	83	67	73
Percent women interacting	79	59	58	86
Percent both interacting	63	71	61	88
Interaction with children				
Percent men	0	7	4	14
Percent women	3	15	18	15
Percent both	8	12	5	22
One vs. two or more shown				
Percent men shown alone	52	57	68	56
Percent women shown alone	59	58	50	67
Percent of men to women	91	86	52	41
Black representation				
Percent black men	9	9	29	10
Percent black women	7	12	24	8
Text				
Proper names				
Average number male	20.18	98.56	63.45	12.00
Average number female	12.00	26.72	11.82	18.90
Percent male	63%	79%	84%	39%
Titles	%	%	%	%
Percent use of Mr.	57	48	45	40
Percent use of Miss	19	20	39	50
Percent use of Mrs.	24	32	16	9
Percent female Dr.	3	0	0	76
Percent different patterns	5	28	36	50
Percent different pay	6	17	18	20
Percent working mothers	13	17	45	60
Pronoun Usage				
You	1.00	1.00	1.27	1.70
He	1.53	1.72	1.27	1.20
She	.35	.56	.64	.90

Table 11 (cont.)
Results of Analysis of Materials by Stereotyping Rating - VGQ Sample

Variable	VS	S	N	SUS
n	20	85	40	7
Illustrations				
Average number of men	.85	1.73	1.13	.43
Average number of women	.20	.73	.51	1.00
Average number of both	.05	.59	.53	.29
Indoor-outdoor variables	%	%	%	%
Percent men outdoors	41	29	29	33
Percent women outdoors	0	16	0	0
Percent both outdoors	0	8	19	48
Interacting variables				
Percent men interacting	40	83	79	0
Percent women interacting	0	48	25	0
Percent both interacting	100	76	57	100
Interaction with children				
Percent men	0	3	0	0
Percent women	25	5	0	0
Percent both	0	3	15	0
One vs. two or more shown				
Percent men shown alone	71	62	44	33
Percent women shown alone	25	58	65	0
Percent of men to women	81	70	69	30
Black representation				
Percent black men	6	11	24	56
Percent black women	0	21	19	11
Text				
Proper names				
Average number male	6.75	5.40	1.45	.86
Average number female	1.00	3.52	.78	5.57
Percent male	87%	61%	65%	13%
Titles	%	%	%	%
Percent use of Mr.	0	64	53	--
Percent use of Miss.	82	8	9	--
Percent use of Mrs.	18	28	38	--
Percent female Dr.	0	5	0	--
Percent different patterns	70	12	18	29
Percent different pay	0	5	5	14
Percent working mothers	0	4	8	0
Pronoun usage				
You	.30	.22	.63	.57
He	1.55	1.41	.83	.71
She	.25	.20	.33	.57

pronouns was related to the degree of stereotyping, with greater use being judged as less stereotyped. Similar results are also found regarding the third person "he" and "she," with "he" used more in stereotyped materials and "she" used more in the non-stereotyped materials.

The results from the analyses of different pay and career pattern variables were unclear. There seemed to be little systematic variation with respect to these variables and stereotyping.

Thus, there appear to be only a few variables that systematically relate to the amount of stereotyping that was perceived in the materials. These variables were subjected to further analysis in terms of prediction models.

Selection and Use of Predictor Variables

Only the PMM sample was used in the following analysis, since it contained the greatest number of observations for each material. After the selection of variables, three prediction models were attempted. All proved to have some validity and are reported here.

Variables were selected for inclusion in the predictor set based on their relationship to the perceived sex-role stereotyping in the ratings given by the project staff. The fourteen variables selected are given in Table 12. Since some of the variables were appropriate for only a subset of the materials in the sample, a transformation was performed to make them compatible with the analysis. First, a decision was made as to the appropriateness of the use of the variable as a predictor. If it was decided that a particular variable was inappropriate, for instance if there were few or no illustrations of people in a material and the variable was the percentage of men only illustrated, then that variable was coded as a zero. A criterion was then set to determine whether the variable would be coded as a 1 or -1. For instance, if more than five illustrations of men only and women only were given in a material and if more women than men were illustrated, this variable was coded as a 1. On the other hand, if more men than women were illustrated, this variable was coded as a -1. A procedure such as this was used with the first eight variables given in Table 12. For the last six variables on which data was available for all materials, the variables were coded as 0 and 1.

Model I - The Full Model

Regressing each of these variables separately on the amount of perceived stereotyping, correlates of -.40, .36, .35, .26, and .26 were found for variables ten, fourteen, nine, one and three respectively. This means that the three best individual predictors were questions that were asked at the end of reading of the materials, a result which seemed to agree with the previous analysis. Other correlations with perceived stereotyping were .11, .09, -.08, .16, .02, .07, .22, .05, and .18 for variables two, four, five, six, seven, eight, eleven, twelve, and thirteen. Thus, while the variables that asked questions at the end of a reading of material seemed to be reasonable predictors of stereotyping, the only variables that showed much predictive ability with respect to tabulations of phenomena within the materials were illustrations of one sex only (1), men interacting with children (3), and mentions of proper names of one sex (6).

Regressing all variables onto the amount of rated stereotyping (project staff ratings), a multiple correlation of .63 was obtained with an F ratio of 2.008 with 14 and 42 degrees of freedom, which was significant at the .05 level. This was interpreted to mean that prediction was moderately successful using these variables. The unstandardized regression coefficients were, respectively, .22, .37, .13, .20, -.38, .30, -.05, .06, .38, -.71, .08, -.13, .62, and .64. The t-test for testing significance of

Table 12. Variables and Transformations Used in Predicting Stereotyping in Career Materials

Variable	Code
1. Less than five illustrations of men only and women only	0
Men greater than 50%	-1
Men less than 50%	1
2. Less than four illustrations of both sexes together	0
More than 70% interacting	1
Less than 70% interacting	-1
3. Less than three illustrations of men only	0
One or more interacting with child	1
None interacting with child	-1
4. Less than three women only illustrated	0
One or more interacting with child	1
None interacting with child	-1
5. Less than three women only illustrated	0
One or more pictured outdoors	1
None pictured outdoors	-1
6. Less than five men and women mentioned in text	0
More than 50% are male names	-1
Less than 50% are male names	1
7. Less than three mentions of Miss and Mrs.	0
Miss used more than Mrs.	1
Mrs. used more than Miss	-1
8. Less than two Drs. mentioned	0
One or more woman Dr.	1
No women Drs.	-1
9. "You" used often	1
"You" used some or less	0
10. "He" used often	1
"He" used some or less	0
11. "She" used some or often	1
"She" used none	0
12. Different Patterns	1
No different patterns	0
13. Different Pay	1
No different pay	0
14. Working Mothers	1
No working mothers	0

coefficients showed that variables ten (pronoun "he") with t=2.16 and fourteen (working mothers) with t=1.81 both with 42 degrees of freedom were the only tests that approached significance.

Model II - Partial Model

In a step-up regression procedure, variables were added in the order ten, fourteen, thirteen, nine, and one, with a final multiple correlation of .59. The F ratio for this statistic was 5.39 with 5 and 51 degrees of freedom. The full model, (including the other eight variables) accounted for only a small amount of variance beyond the partial model, with an F ratio of .556. The linear prediction model, which included only the five variables one, nine, ten, thirteen, and fourteen, was probably the best linear regression model for the purposes of this paper. The unstandardized regression coefficients were, respectively, .108, .505, -.636, .584, and .593, with variables ten and fourteen having significant coefficients at the .05 level. Table 13 gives the analysis of variance tables for the various models.

Model III - The Non-linear Model

Even though the partial model allowed fairly good predictions of the amount of stereotyping given by the selected variables, two objections may be made to its use. The first is that it is a cumbersome procedure to use. The second and most important is that even with transformed variables, the non-appropriate variables are not adequately handled. The estimation of the coefficients is partly a function of how many variables are appropriate or not appropriate for a given material. The latter difficulty does not apply to variables nine through fourteen, perhaps explaining why these variables were more highly correlated with the criterion and placed in the model first in the step-up procedure. A possible method of handling inappropriate data would be to use the multiple regression procedure only in the cases where data was complete for any given subset. This method was rejected because of the small number of cases in the sample. For these reasons, a simple method related to the multiple regression procedure but using only appropriate data was devised.

The nonlinear model involves two columns, A and B. Each variable selected for inclusion into the model has two parameters associated with it, one for placement in column A if the variable is coded as 1 or "yes" and one for placement in column B if the variable is coded as -1 or "no." The procedure for the prediction of stereotyping in a single material is as follows. The value of the first variable is noted. If the variable is not appropriate for inclusion into the model, nothing is added to the columns. If the variable is appropriate for use in predicting, then the appropriate parameter is placed in the correct column A or B. This procedure is carried out for all variables selected for inclusion into the prediction model. Following this, all numbers that have been placed under columns A and B are added. The sums of columns A and B are added and used to divide the sum of column A. The resulting ratio is then used as an index of the degree of stereotyping in the material.

This procedure seemed reasonable in that there would be no confounding of coefficients with the number of predictors appropriate for a given material. The parameters to be placed in column A and B were estimated using STEPIT, a computer routine that could be programmed to give a least squares solution. The variables used and the resulting estimates are given in Table 14. When predicted stereotyping scores were correlated with stereotyping ratings, a correlation of .67 was obtained with thirteen parameters being estimated. The resulting F ratio was 2.850, significant at the .05 level with 13 and 43 degrees of freedom. This solution was equal or better in a least squares sense, than the solution that estimated fifteen parameters in the full model, and was examined further.

Table 13. Analysis of Variance for the Three Prediction Models

The Full Model - variables one through fourteen

Source	SS	df	MS	f
TOTAL	69.471	56		
Reduction due to fitting the model	27.861	15	1.990	2.008*
Error	41.610	42	.991	

The Partial Model - variables one, nine, ten, thirteen, fourteen

Source	SS	df	MS	f
TOTAL	69.471	56		
Reduction due to fitting the model	24.101	5	4.820	5.416**
Error	45.370	51	.890	

The Non-linear Model

Source	SS	df	MS	f
TOTAL	69.471	56		
Reduction due to fitting the model	32.123	13	2.471	2.850*
Error	37.348	43	.867	

* Significant at .05
** Significant at .01

Table 14. Variables and Estimated Parameters for Non-linear Prediction Model

Variable	Column A	Column B
1. Less than five illustrations of men and women only	0	0
Men less than 50%	50.6	0
Men greater than 50%	0	6.3
5. Less than three women only illustrated	0	0
One or more illustrated outdoors	11.5	0
None illustrated outdoors	0	0
9. "You" used often	6.4	0
"You" used some or none	0	14.0
10. "He" used often	0	200.0
"He" used some or none	0	0
11. Different pay	55.2	0
No different pay	0	7.9
12. Working mothers	23.0	0
No working mothers	0	0

Reliability and Validity of the Prediction Models

The second part of this section concerned the reliability and validity of the three prediction models proposed thus far. As mentioned in the procedures section, three sensitized people, henceforth called raters, who had no knowledge of the variables collected in the instrument, independently rated and ranked fifteen materials from the PMM sample in each of two sessions. The two questions of greatest concern were how much did the raters agree in their assessment of stereotyping in the materials and how well did the models predict their rating of stereotyping. The answer to the first question gives an upper bound as to the predictive power of the instrument. In other words, no model may predict better than the reliability of the criterion it is predicting.

The three sections in Table 15 give intercorrelation matrices of the ratings and rankings of both the three raters and the project staff for the two sessions combined and for each session separately. The correlation between the summed rankings and the project staff ratings was .66, while the correlation between summed ratings and project staff ratings was .59 over both sessions. Because the project staff ratings were used as a criterion in the development of the prediction models, these correlations represent the upper bounds of the prediction models with rater's summed rankings and ratings. While these correlations do not appear to be extremely high, it is useful to note that the intercorrelations between raters were .64, .66, and .53 for the rankings of the materials and .00, .03, and .58 for the ratings. The very low correlations on the latter were due to the negative correlation of one of the raters in the second session. These data indicate that a "good" predictor should correlate somewhere between .40 and .60 with the summed ranking and somewhat lower with the summed ratings.

The statistics applicable to the validity of the prediction models are given in Table 16. The non-linear model results in higher correlations with every subjective measure of sex-role stereotyping, except Rater 1, than either the full or partial regression models. These measures seem to indicate that the methods of predicting stereotyping were a reasonable basis for the prediction. Of greatest importance in this table is the relationship between the summed rankings and the predictions made by the various models. The non-linear model fit best with a correlation of .53, compared with correlations of .42 for the full regression model and .32 for the partial regression model. For this reason, the non-linear model was chosen to score the instrument.

Table 15. Intercorrelation Matrices of Raters' Rankings and Ratings of the Materials - Reliability Data

	Project Staff Ratings	Summed Rankings	Summed Ratings	Ranking 1	Ranking 2	Ranking 3	Rating 1	Rating 2	Rating 3
Combined Sessions - Thirty Materials									
Project staff ratings	1.00								
Summed rankings of three raters	.66	1.00							
Summed ratings of three raters	.59	.79	1.00						
Ranking by Rater 1	.62	.87	.65	1.00					
Ranking by Rater 2	.44	.81	.66	.53	1.00				
Ranking by Rater 3	.62	.88	.70	.68	.55	1.00			
Rating by Rater 1	.17	.05	.41	.07	.01	.05	1.00		
Rating by Rater 2	.53	.71	.81	.63	.58	.60	.0	1.00	
Rating by Rater 3	.48	.79	.80	.59	.71	.73	.03	.58	1.00
First Session - Fifteen Materials									
Project staff ratings	1.00								
Summed rankings of three raters	.69	1.00							
Summed ratings of three raters	.79	.95	1.00						
Ranking by Rater 1	.63	.87	.78	1.00					
Ranking by Rater 2	.45	.84	.77	.56	1.00				
Ranking by Rater 3	.70	.88	.90	.68	.60	1.00			
Rating by Rater 1	.65	.78	.80	.77	.54	.70	1.00		
Rating by Rater 2	.70	.83	.90	.61	.84	.69	.54	1.00	
Rating by Rater 3	.48	.85	.90	.69	.57	.95	.59	.73	1.00
Second Session - Fifteen Materials									
Project staff ratings	1.00								
Summed rankings of three raters	.64	1.00							
Summed ratings of three raters	.36	.74	1.00						
Ranking by Rater 1	.63	.86	.62	1.00					
Ranking by Rater 2	.44	.79	.73	.50	1.00				
Ranking by Rater 3	.55	.87	.51	.69	.50	1.00			
Rating by Rater 1	-.68	-.94	-.57	-.90	-.70	-.81	1.00		
Rating by Rater 2	.63	.74	.54	.90	.31	.67	-.72	1.00	
Rating by Rater 3	.34	.76	.87	.51	.87	.54	-.68	.28	1.00

Table 16. Correlations Between Subjective Judgements and Predictive Models - Sessions One and Two Combined

	Full Model Fourteen Variables	Partial Model Five Variables	Non-linear Regression
Project staff ratings	.67	.58	.68
Summed rankings by raters	.42	.32	.53
Summed ratings by raters	.29	.12	.38
Ranking by Rater 1	.58	.49	.63
Ranking by Rater 2	.20	.13	.33
Ranking by Rater 3	.29	.20	.40
Rating by Rater 1	.28	.16	.20
Rating by Rater 2	.23	.11	.37
Rating by Rater 3	.11	-.01	.21

V. A REVISED AND SHORTENED FORM OF THE INSTRUMENT

This section of the report discusses a short form of the sex-role stereotyping instrument designed to give a rough index of the amount of stereotyping in a material on the basis of a limited amount of data collection and observation. As seen from the preceeding section, a reasonably valid predictor (correlation equals .53) can be obtained with only six questions for each material. The shortened form of the instrument is given in Table 17.

Even though there are only six questions, different aspects of stereotyping are included. The first surveys whether approximately equal representation of men and women appear in the material. This is examined in the instrument by question 1 for the illustrations and question 4 for the text. The second aspect surveys the use of second person and plural pronouns and is examined by question 3. The third, the illustration of women in an un-stereotyped situation, namely outdoors alone, is asked in question 2. The fourth aspect of stereotyping is covered in questions 5 and 6 and concerns the materials' authors own awareness of sex-role stereotyping in the occupational area. Obviously, a material could have an equal representation of men and women and still be very stereotyped. Similarly for the other aspects, no one aspect completely describes how stereotyped a material will be judged. Taken as a whole, however, these aspects can be a reasonable method of obtaining a rough index of the amount of stereotyping, given only "objective" measures.

The method of scoring the revised instrument was given in a previous section, but will be briefly reviewed here. To assess any material, the first step is to label two columns A and B on the scoring sheet. The second step is to note which questions have "yes" answers, including questions 1a, 1b, 2a, and 2b, but not questions 1 and 2. For each "yes" answer, the appropriate row in Table 18 is consulted and the numbers in that row under columns A and B are written down on the scoring sheet under columns A and B. After all "yes" answers have been recorded on the scoring sheet, columns A and B are summed. The next step is to divide the sum of column A by the sum of column A plus the sum of column B. The resulting number will fall between 0 and 1 and will give a rough index of the amount of stereotyping in a given material.

For example, suppose a material had been assessed by the instrument and received "yes" responses on questions 1a, 2, 3a, 4b, 5b, and 6a. The numbers in rows 1a, 3a, 4b, 5b, and 6a are then placed under columns A and B on the scoring sheet as follows:

Scoring Sheet

	A	B
1a	50.6	0
3a	6.4	0
4b	0	0
5b	0	7.9
6a	23.0	0
SUM	80.0	7.9

Table 17. Revised and Shortened Form of the Instrument

1.	Less than five illustrations of men and women only		yes	no
	If no,			
	a.	Men less than 50%	yes	no
	b.	Men greater than 50%	yes	no
2.	Less than three women only illustrated		yes	no
	If no,			
	a.	One or more illustrated outdoors	yes	no
	b.	None illustrated outdoors	yes	no
3.	a.	"You" used often	yes	no
	b.	"You" used some or none	yes	no
4.	a.	"He" used often	yes	no
	b.	"He" used some or none	yes	no
5.	a.	Indications of different pay	yes	no
	b.	No indication of different pay	yes	no
6.	a.	Indications of working mothers	yes	no
	b.	No indications of working mothers	yes	no

Table 18. Values to be Used in Scoring the Instrument

Question	A	B
1a	50.6	0
1b	0	6.3
2a	11.6	0
2b	0	0
3a	6.4	0
3b	0	14.3
4a	0	200.0
4b	0	0
5a	55.2	0
5b	0	7.9
6a	23.0	0
6b	0	0

Note that no numbers were placed under the columns corresponding to either question 2a or 2b. This is because neither would be answered with a "yes" if question 2 were answered with a "yes." In this example, the sum of column A equals 80.0 and the sum of column A plus the sum of column B is equal to 87.9. Dividing the first of these numbers by the second, the number .91 is derived as the index of stereotyping. In a concise form:

$$\frac{\text{sum column A}}{\text{sum column A + sum column B}} = \frac{80.0}{80.0 + 7.9} = \frac{80.0}{87.9} = .91$$

As this number is close to 1, the material would be fairly unstereotyped. If the number had been close to 0, the material would have been stereotyped.

DISCUSSION AND RECOMMENDATIONS

Most of the results that were reported in the preceding chapters will not be surprising to anyone familiar with career literature and sensitized as to the nature of sex-role stereotyping. To a greater or lesser extent, almost all of the materials were found to be stereotyped. A generalized discussion, combined with some general and specific recommendations for future materials, is presented below.

One of the most difficult problems facing writers of career materials is whether the materials should reflect the present or some picture of the future. Since the materials are intended for students who are planning careers for the rest of their lives, it seems reasonable that the materials should present some predictions for the future. The U.S. Department of Labor provides projections for up to ten years into the future for both the labor force as a whole and specific occupations. There undoubtedly is some error in such predictions, but the predictions are accurate enough to aid in the educated planning of a career. With respect to women in the labor force, a reasonable prediction is that more women will be employed outside the home in years to come in a greater variety of occupations than at present (Women's Bureau, 1973). More women will be employed in occupations that have traditionally been "men's occupations" and vice versa. These trends should be presented in career literature.

The preceding analysis showed that even the current status of women in careers is not adequately represented in career materials. Thus, coincident with a presentation of the predictions for the future, a non-stereotyped career material honestly deals with the problems and struggles of the present. Women are excluded because of their sex from some occupations, not legally, but because of past practices. Labor unions, especially trade unions, may be reluctant to accept women. The idea that a woman's place is in the home is still the accepted norm in many circles. In preparing for the future, a knowledge of the problems and struggles involved in any given career choice is invaluable. A balanced presentation of the way things are and the way they are becoming seemed to be the most effective means of presenting a non-stereotyped material.

What is perhaps needed more than anything else in these materials is an honest discussion of the necessary skills, attributes, and life styles associated with each potential occupation discussed without regard to sex. For instance, it would make little sense to present or illustrate a 100-pound, 5-foot-2-inch woman carrying 150-pound sacks. It would make as little sense to present or illustrate a 100-pound, 5-foot-2-inch man carrying 150-pound sacks. However, either of these persons would have the strength to operate power machinery.

The point is that some women have the skills and attributes that would make this occupation feasible for them and therefore should not be excluded simply on the basis of their sex. The basic requirement of this approach is an honest evaluation of the skills and attributes necessary for a particular occupation. For instance, how much strength does it take to operate power assisted machinery or ride a horse?

Another, much-belabored point is the use of the generic "he." Tanney (1974) summarized the

literature on the effect of the language used in interest inventories as a potential vehicle for perpetuating sex bias in the following three points:

1. No empirical test of the influence of labeling occupations, interests, or activities as gender-specific has been reported within the field of occupational interest measurement.

2. Investigation in other disciplines strongly suggests that this variable may have impact, although subtle, on the responses people make to questions about their vocational or vocationally related interests.

3. The potential hazards of gender specification would suggest that all cautions should be taken in the construction of interest measures and their related components to insure that no "sex-appropriateness" be conveyed.

There is some doubt whether "he" is understood as generic in meaning since "she" was often used in place of "he" in some traditionally female occupations in the samples of materials. The recommendation is to avoid the use of third person singular forms of the pronoun wherever possible. It is not a difficult task to write using the plural form of the pronoun when referring to people employed in a particular occupations, referring to cab drivers and what they do, rather than to a cab driver and what he does. The technique of writing for the second person "you" is an alternative to the third person plural form. In situations where the use of "he" or "she" is necessary, such as when referring to a specific person, it would be best to take a number of examples, some referring to women and some referring to men.

One form of stereotyping that is rarely mentioned, but appropriate to discuss at this time is the stereotyping inherent in the homemaker image. This role or occupation is a viable alternative for women, and more men in the future, such that its functions, advantages, and disadvantages should be honestly reported to those planning for future careers. Statements such as "only a housewife" or "the little homemaker" should be avoided. The advantages and disadvantages of being a working parent (mother or father) should be discussed openly and accurately in these materials.

While most of the materials showed some awareness of the problem of sex-role stereotyping, in most cases it was handled inadequately. A variety of approaches were used by the materials, some more successfully than others. A few materials simply ignored the fact that there are two sexes and directed the material to one sex only. This approach is totally and obviously inadequate. Another approach that seemed used especially by so-called revised editions of materials, was to add a disclaimer, a sentence, paragraph, or even a chapter dealing with the "woman" problem. In some cases this was successful, but in many others, it was inadequate. (Some of the "so-called" revised editions were revised mainly by changing the date of publication.) It is perhaps best to deal with the total material rather than only a small portion in terms of role stereotyping. The use of "he/she" or "he and she" followed by the use of "he" throughout the rest of the material was also felt to be inadequate. The approach recommended by the project staff is to be concerned with sex-role stereotyping throughout a material, consciously aware of its many manifestations.

The problem of devising a useful prediction instrument goes back to the problem of the definition of what sex-role stereotyping is. The term means different things to different people and there seems to be little hope of operational definition at this point. What may be stereotyped in one context is not in another. The instrument presented in this study is a useful first step in informing people of potential stereotyping. Its use is intended for those who do not have a clear definition of what stereotyping means and how it appears in these materials. Perhaps by using such an instrument, persons may be better able to conceptualize the nature of the problem and deal with it accordingly.

APPENDICES

Appendix A - Scales for Stereotypic Clusters

1. Active - Passive

   The distinction is that between Doing and Observing. Discovery vs. Unadventurous behaviors. More of a mental attitude than physical activity.

   A. The person is actively risking his life, acquisitions, or status in some sort of endeavor, such as searching out new frontiers, competition, or struggle.

   B. The person is discovering, building, planning, or doing something out of the ordinary. Some risk may be involved, but the important factor is that of accomplishing something worthwhile.

   C. The person is involved in a task that is routine, yet somewhat changeable. There is little chance of either discovery or loss involved.

   D. This person is doing dull, routine, or repetitive tasks or this person is observing something or someone rather than participating. Also fear of risk-taking.

   E. NONE OF THE ABOVE

2. Strong - Weak

   A physical dimension.

   A. Exhibits great or extraordinary strength, such as manual labor or physically demanding tasks.

   B. Strength or stamina is exhibited or needed, but not the major factor in the performance of this task.

   C. Physical strength shown is about that required to drive an automobile.

   D. Sedentary task as in writing, typing, or observing. Physical activity is low.

   E. NONE OF THE ABOVE

3. Clean - Dirty

   A. The person is dirty or involved in a task that would require that their clothes be washed every night.

   B. The person is involved in a task that would require washing after completing the task.

This person appears the average person you might meet on the street.

C. The person is well-dressed and clean. As you might expect a professional person to appear.

D. NONE OF THE ABOVE

4. Emotional Control

A. Shows control of self in trying circumstances.

B. Expressing some sort of an emotion.

C. IMPOSSIBLE TO DETERMINE OR NONE OF THE ABOVE

5. Logic - Illogic

A. Person is solving a problem(s) using some sort of logic. May be fixing something mechanical, programming computer, or similar task.

B. Person is operating machinery or apparatus. A great deal of objective thought is not necessary.

C. Illogical, subjective, superstitious, or religious behavior is shown by the person.

Appendix B - Assessment Instrument

PART I: GENERAL INFORMATION

Title:

Author(s):

____Number of men

____Number of women

____Corporate

Publisher:

____Commercial

____Noncommercial

Year of Publication:

Number of Pages:

Intended Grade Level:

____Early high school (grades 9-10)

____Late high school (grades 11-12)

____General high school

Type:

____General information on careers and working

____Specific occupation(s)

____Biography - autobiography

____Fiction

PART II: ILLUSTRATIONS

No Yes

_____ _____ Illustrations

If Yes: (Must be able to see head of person or otherwise distinguish sex)

_____ Both man (men) and woman (women)

_____ Indoors

_____ Outdoors

_____ Interacting (face-to-face or obvious)

_____ Pictured with children younger than high school age

_____ Only one man

_____ Two or more men

_____ Indoors

_____ Outdoors

_____ Interacting (face-to-face or obvious)

_____ Pictured with children younger than high school age

_____ Only one woman

_____ Two or more women

_____ Indoors

_____ Outdoors

_____ Interacting (face-to-face or obvious)

_____ Pictured with children younger than high school age

Ethnic Representation

Men	Women	
_____	_____	Blacks
_____	_____	Oriental Americans
_____	_____	Native Americans
_____	_____	Other

ILLUSTRATIONS

Occupations (Use only major characters - at most three.)

Men	Women	
_____	_____	Professional and technical
_____	_____	Teacher
_____	_____	Nurse
_____	_____	Librarian
_____	_____	Social worker
_____	_____	Managers and administrators
_____	_____	Sales workers
_____	_____	Clerical workers
_____	_____	Craftsmen
_____	_____	Operatives, except transport
_____	_____	Transport equipment operatives
_____	_____	Laborers, except farm
_____	_____	Farm workers
_____	_____	Service workers, inc. private household
_____	_____	Politicians and royalty
_____	_____	Military

Stereotyping Scales

1.

Strong - Weak	Manual Work	Some Strength	Little Strength	Sedentary	N/A
Men					
Women					

2.

Clean - Dirty	Dirty	Average	Clean	N/A
Men				
Women				

3. Emotionality

Men	Women	
_____	_____	Indication of emotion

Non-stereotyped Occupations (List, include page number.)

	Men	Women
Illustrations		

Text:

PART III: TEXT

Sex-designated names — Tally (Only once per person per page.)

_____ Proper male names (John Doe, Dick Brown)

_____

_____ Proper female names (Jane Doe, Sally Brown)

_____

_____ Mr.

_____ Ms.

_____ Miss

_____ Mrs.

_____ Dr. (male)

_____ Dr. (female)

Family Status — Tally (Only one mention per person per page.)

Men	Women	
_____	_____	Married
_____	_____	Being a parent
_____	_____	Being a homemaker
_____	_____	Being a worker
_____	_____	Being a homemaker and worker
_____	_____	Being a parent and worker

Earnings

Yes_____ No_____ Are current earnings reported anywhere?

If yes:

Occupation	Earnings	Male	Female	Date

TEXT

Occupations — Tally (Once per page.)

Men	Women	
_____	_____	Professional and technical
_____	_____	Teacher
_____	_____	Nurse
_____	_____	Librarian
_____	_____	Social worker
_____	_____	Managers and administrators
_____	_____	Sales workers
_____	_____	Clerical workers
_____	_____	Craftsmen
_____	_____	Operatives, except transport
_____	_____	Transport equipment operatives
_____	_____	Laborers, except farm
_____	_____	Farm workers
_____	_____	Service workers, inc. private household
_____	_____	Politicians and royalty
_____	_____	Military

PART IV: GENERAL IMPRESSIONS

Pronouns—Overall impression, do not tally

	Often	Some	None
"You"	_____	_____	_____
"He"	_____	_____	_____
"She"	_____	_____	_____

Super Categories—Indicate impressions from a major characters

_____ 1. Stable homemaking

_____ 2. Conventional

_____ 3. Stable working

_____ 4. Double track

_____ 5. Interrupted

_____ 6. Unstable

Any indication that women's career pattern are different from men's?

Any indication that women are not paid the same as men?

Any indication of working mothers?

Any additional comments:
(e.g., stress on appearance over competence, "childishness", etc.)

In terms of sex-role stereotypes, I would rate this unit of career planning material:

_____ Extremely stereotyped

_____ Very stereotyped

_____ Stereotyped

_____ Neutral

_____ Specifically un-stereotyped

Particular quotations that are extremely stereotypic (Include page number)

Particular quotations that are non-stereotypic (Include page number)

Appendix C - Survey for Career Materials Purchasers

GENERAL INFORMATION

1. What is your official title or position?

   Guidance counselor _____
   Librarian _____
   Other (Please specify.) _____ _____

2. How many career materials would you estimate are in your collection? _____

3. What percentage of each of the following two categorizations would you estimate are represented in your collection?

   A. Pamphlets _____ %
      Books _____ %
      100%

   B. Information on specific occupations _____ %
      General information on work _____ %
      Biographical or autobiographical _____ %
      Fictional _____ %
      100%

4. What would you estimate is the percentage of actual use by students of the following categories of career materials?

   A. Pamphlets _____ %
      Books _____ %
      100%

   B. Information on specific occupations _____ %
      General information on work _____ %
      Biographical or autobiographical _____ %
      Fictional _____ %
      100%

5. How would you rank order, from most used (1) to least used (6), the manner in which students locate career materials?

   _____ Guidance counselor
   _____ Librarian
   _____ Card catalogue
   _____ Open shelf search
   _____ Other students
   _____ Other (Please specify.) _____

6. What would you estimate is the percentage of male students in your school? _____%

SELECTION OF MATERIALS

7. Are books and pamphlets selected from any lists or reviews? ____ Yes ____ No

   If yes, please check appropriate line(s).

   _____ Recommendations from teachers
   _____ Recommendations from students
   _____ Journal recommendations (Please specify journals.)

   _____
   _____
   _____

8. How would you rank order, from most important (1) to least important (4), the following criteria for ordering career materials?

   _____ Socioeconomic status of career(s) presented in material
   _____ Minority group representation (broadening opportunities for minority groups)
   _____ Reading level of material
   _____ Sex-role stereotyping (broadening opportunities for women)

9. What percent of the materials do you read before you order them? _____ %
   after you order them? _____ %

10. What criteria do you use in determining whether or not career materials are sex-role stereotyped? (Mark as many as are appropriate.)

    _____ None
    _____ Number of women pictured
    _____ Specific chapter on problems of women in career(s)
    _____ Use of neutral terms, i.e., they instead of he or she
    _____ Other (Please specify.) _____

11. If guidelines for rating career materials in terms of sex-role stereotyping were available, would you use them?

Average Time Per Material	Yes	No	Sometimes
30 minutes	_____	_____	_____
1 hour	_____	_____	_____
2 hours	_____	_____	_____

    Maximum time per material you would be willing to spend _____

12. If such guidelines could accurately be used by students, would you be willing to consider the results?

    _____ Yes
    _____ No
    _____ Sometimes

Please list other comments on the back of this page.

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